

UNC-CH HEALTH SCIENCES LIBRARY



H00380513K

The Library  
of the  
University of North Carolina



Endowed by The Dialectic  
and  
Philanthropic Societies

610.5  
S727s  
v. 30  
1928

Med.



***This book must not be  
taken from the Library  
building.***

JAN 26 1952

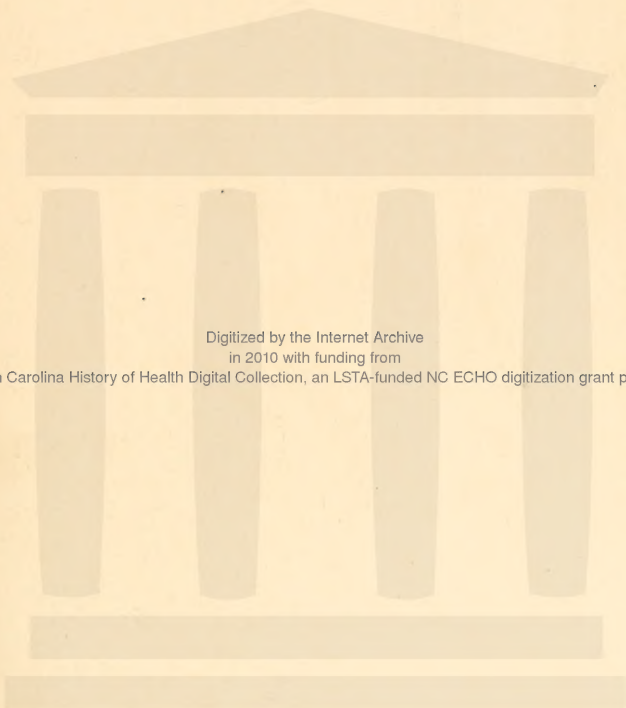












Digitized by the Internet Archive  
in 2010 with funding from

North Carolina History of Health Digital Collection, an LSTA-funded NC ECHO digitization grant project





# SOUTHERN MEDICINE & SURGERY

*Lineal Descendant of the North Carolina Medical Journal*

Established 1856

JAS. M. NORTHINGTON, M.D. Editor

Volumes 90  
Number 1

January, 1928

Single Copies 50c  
\$2.50 Per Annum

## CONTENTS

### Prize Essays on "How the Family Doctor Can Increase His Usefulness and His Income"

First Prize, J. H. Hiden, Pungoteague, Va.....	1
Second and Third Prizes {	
W. M. Johnson, Winston-Salem, N. C.....	5
H. J. Langston, Danville, Va.....	8
Other Essays Receiving Votes {	
J. A. Norton, Conway, S. C.....	10
M. O. Burke, Richmond, Va.....	13

### Original Articles

The Intravenous Administration of Massive Doses of Sodium Iodide, C. B. Herman .....	16
On the Importance of the Conservation of Mental Health, J. K. Hall.....	18
Congenital Urinary Obstruction, W. M. Coppridge.....	22
Rabies From the Veterinarian's Viewpoint, H. C. Rea.....	24
Lessons From Cases of Mastoiditis in Infants, V. P. Peery.....	26
Acute Appendicular Obstruction, W. P. Biggart.....	31

### Editorials

Our Readers' Preferences and Opinions.....	35
Our Essay Contest on the Problems of the Family Doctor.....	38
The Coming Tri-State Meeting (with Preliminary Program).....	39
South Carolina's Way .....	42

### Departments

A Sentencing Commission, J. K. Hall .....	43
The Underweight School Child, G. W. Kutscher .....	45
Hemorrhage in the Anterior Chamber, H. L. Sloan.....	46
Hallux Valgus and Hallux Rigidus, O. L. Miller .....	47
Perinephritic Abscess, Raymond Thompson .....	47
Eczema and X-rays, J. D. MacRae .....	49
Post-operative Phlebitis, G. H. Bunch.....	50

(Continued on inside of Front Cover)

OFFICIAL ORGAN OF TRI-STATE MEDICAL ASSOCIATION OF THE  
CAROLINAS AND VIRGINIA

ENTERED CHARLOTTE, N. C., POSTOFFICE SECOND CLASS MAIL

Published Monthly by Jas. M. Northington, Charlotte, N. C.

An Interesting Psychotic Episode, F. R Taylor.....	51
Some Pathological Conditions of Pregnancy, H. J. Langston.....	53
Examinations, O. B. Chamberlain .....	55
Correspondence .....	57
News Notes .....	58
Haywood Hospital; Marlborough Co. Med. Soc.; Wayne Co. Med. Soc.; Tri-County Med. Soc.; Clinico-Pathological Soc.; American Psychiatric Asso.; Founder's Day Medical College of Virginia; Mecklenburg Co. Med. Soc.; Memorial to Dr. Pritchard, Robeson Co. Med. Soc.; Drs. Chas. W. Sawyer, J. H. Harrison, W. H. Houser, W. P. Whittington, A. H. Rose, W. J. B. Orr.	
Review of Recent Books .....	62-63
Triumphs of Medicine, Hartzog; Therapeutics, Hare; Psycho-Analysis, Ferenczi; Annals of Pickett-Thomson Research Laboratories.	
Chuckles .....	64

# GASTRON

## A complete gastric gland extract

A clinical resource against disorders of gastric function, acute, and under strain and stress of exhausting disease. Gastron contains the enzymes, co-ferments, associated organic and inorganic constituents of the entire gastric mucosa; is of standardized proteolytic energy; grateful, agreeable to the stomach. Prescribed simply by the name GASTRON.

**FAIRCHILD BROS. & FOSTER**

**NEW YORK**



# Southern Medicine and Surgery

VOL. XC

CHARLOTTE, N. C., JANUARY, 1928

NO. 1

## Five Essays On "HOW THE FAMILY DOCTOR CAN INCREASE HIS USEFULNESS AND HIS INCOME"

Submitted for improvement of the Status of the Family Doctor—Stimulated by prizes offered through Southern Medicine and Surgery

### First Prize

DR. J. H. HIDDEN, Pungoteague, Va.

As a family physician for over twenty-five years this subject has been constantly before my mind, and in an effort to solve this problem I have thought the subject over many, many times and viewed it from what appears every possible angle. As a result of my labors, when conditions seemed almost hopelessly dark, I am grateful to find that my efforts have not been in vain; for I have every reason to believe that my usefulness has increased, and I know my annual income from my practice has increased within the last five years fifty per cent. With this experience before me I am ready to give to my struggling brother some simple views and opinions that helped me in solving this problem in my own case.

Few things in the schools of science have undergone more numerous and varied changes within the last two decades than has the practice of medicine. These changes are seen more or less in every department of medicine, and they naturally breed a sort of restlessness and oftentimes an uneasiness that can scarcely be concealed. In none of these departments do we find more of this uneasiness than in that of the family physician; for he is the one in the profession who seems to be losing ground in influence and in remuneration for his services. In an effort to somewhat analyze this situation, and as far as possible to suggest measures to check this deplorable tendency, it may be well to glance at the position of the family physician in his struggle for influence with the public. He sees not only the old enemies of the profes-

sion in the various forms of the charlatan to contend with, but also the most advanced innovations among his professional brethren—all, more or less, apparently infringing mercilessly upon his field of work. He sees many of his former patients seeking the specialists; obstetrical cases are deserting him for aid in maternity wards at some popular hospital; tuberculous patients are seeking sanatoriums; nervous patients are calling for the neurologist, and so on, through the various departments of medicine. Added to all this he sees extensive programs of preventive medicine, organized by the Boards of Health, and backed by legislation, making inroads upon his field of practice, and "pressing him to the wall" on every side. Group practice also appears and gives him additional trouble, and by impressive, extensive examinations often impress patients with a sense of thoroughness, while suggesting to their minds automatically a lack of this thoroughness by their former family physician. Do we wonder that the often slighted family doctor should sometimes become worried and perplexed in contemplating the ultimate outcome of this course of proceedings?

In presenting the above picture I wish to state that it is not as fair a view of the situation as it often appears, and when this picture does appear as unmistakably real, the fault is not, to any considerable degree, in our professional brethren, or entirely in ourselves. Indeed, the present attitude of the public toward the family physician is the natural outcome of our present age—the un-

avoidable evolution of our social conditions. Moreover the so-called innovations that appear to infringe upon us are mostly the progressive changes of our state of civilization, and should be seen and studied in that light. To fret and struggle against such changes would not only be a useless task, but would subject us to continuous embarrassment and, in many cases, even ridicule. To accept them cheerfully as the natural processes of our progressive age will place us more favorably before the public, and will also support us in maintaining our self-respect.

Assuming now that we are able to "orient" ourselves in our new environment, let us see if we can't find what may be called the compensatory advantages in the new era.

The so-called infringements of state medical instruction, when seen in the full light, carry with them a source of unanticipated blessings to many of us. For instance, the general spread of information in regard to preventive medicine furnishes a compensation worthy of the closest attention. Such courses of instruction are teaching the public in every direction the value of periodical examinations even among people who are apparently well. Moreover, under such educational influences thousands of these examinations are now being conducted by family physicians as well as by others in the profession. Indeed, the family physician will doubtless get his full share of this work in the near future. Now is the time to take full advantage of this new situation. Again, this growing demand for medical examinations is more helpful to the general practitioner than he often realizes; for it extends in directions which a few years ago were almost inaccessible. I refer to gynecological examinations. These were usually occasional in general practice, and the family physician was often expected to give so-called "uterine tonics," or "ovarian sedatives" without even making a pelvic examination. Now this custom of extreme "modesty" in women is fast disappearing, and almost any family physician has ample opportunity for gynecological examinations, if he chooses to do this work. Moreover, these frequent examinations not only furnish ample clinical material for more accuracy in diagnosis and greater efficiency in treatment, but they often reveal morbid conditions that would otherwise escape no-

tice; namely, such conditions as uterine displacements, catarrhal conditions, endometritis, uterine polyps, uterine fibroids and myomata, cervical tears, erosions, pus tubes, hematomata, hematoceles, vesico-vaginal fistulae, pelvic adhesions, simple congestions, etc. Here is unmistakably a great field for the reasonably well-informed general practitioner, if he does not surrender it all to the gynecologist or pelvic surgeon. In making this latter statement I am not advocating radical abdominal and pelvic surgery for the family physician; but why should he not train himself to treat successfully such conditions as simple pelvic congestions, uterine cervical catarrhs, cervical tears, cervical erosions, uterine retroversions of the simpler types, endometritis, uterine polyps, cervical atresia, symptoms of menorrhagia, simple forms of amenorrhoea, cervical ulcers, the distressing symptoms of vaginitis, cervical abscesses, etc.? Judging, not only from my general observations, but also from a wide experience with such troubles, I should say that all these morbid conditions are easily within the range of the general practitioner, and they represent a resourceful field for great usefulness and revenue.

Now what has been said in the school of gynecology can also be said in a measure in other lines of work. The chief thing to be emphasized is for the family physician to abolish all conceptions of imaginary wrongs, if he has any, open his eyes to the progressive changes in the practice of medicine—see "the signs of the times" and adjust himself to meet the changing conditions and the demands of our present day. To do this he must be thoroughly interested in his work; let the public see that he considers his work as a sacred trust; co-operate with the best physicians and surgeons of his community, if possible; but never concede to any of the other departments of medicine too large a proportion of his professional work, especially the parts that properly belong to his own field. I emphasize this latter remark because I feel keenly that this is too often done. Just here, allow me to ask with all kindness and sympathy for the family physician, if we avoid much of our professional work in order to be relieved of the tension of responsibility, and send to others what we should know how to treat skilfully ourselves,

who is responsible for the final result of this course in the eyes of the public? In other words, if we make ourselves little more than medical agents for special hospitals, sanatoriums, etc., we are sure to be seen by the public in that light.

Another point that we should consider in making ourselves more useful is to show ourselves to be men of alertness in the profession; for it is practically a conceded fact that there is no thriving place for the sluggard in the practice of medicine. I am ready to admit it is not well to be "keyed up" to a high pitch of continuous nervous tension, but we should always be interested in our work, and be alert to grasp evidence in the claims of improvements. To this end many of our foremost physicians devote periodically a portion of their time for attending special clinics in an effort to keep more abreast of the times. This course is becoming quite popular, and it is often profitable. It might indeed be even more profitable in any given case, if the family physician would first study carefully the needs of the community in which he resides, and also his own deficiencies in meeting these needs, and then apply himself accordingly. In other words, to attend foreign clinics with a sort of medical curiosity, but with no definite object in view other than outside appearances, is not likely to be a very profitable business. It is certainly not in harmony with the best judgment and talent.

Further, to meet the present demands for usefulness the family physician should develop his office practice. To this end he should have a well-fitted office, if possible, containing, as a rule, not less than four rooms, and these should be supplied with the essential equipments of a progressive man—namely, a library, a good supply of suitable instruments, lights, and modern conveniences for examinations and treatment. Everything should be kept spotlessly clean and in order, and examinations should be conducted with dignity and refinement, especially so, when dealing with the opposite sex. We can hardly express this too strongly, if we expect the highest degree of success, and careful attention to the appearances of the office and general equipment, as well as strict observation of cleanliness can hardly be too much emphasized. Carelessness and indifference

along this line are dearly paid for by the physician when he little dreams of it.

Assuming now that we are all convinced that a good office practice is most desirable, if not even essential, to the highest grade of success, the physician should soon select some special lines of needful and popular work in which he is especially interested, if possible, and endeavor to make himself an expert in these lines. Such a course is likely to keep up his interest and make the practice of medicine a real pleasure instead of a dreary course of hardships and disappointments. When this latter condition is reached the family physician will soon be losing ground indeed.

Again, as the physician's office practice grows one or two practical nurses may add greatly to office work in keeping the rooms clean, office furniture and instruments in order, in preparing patients among women and children for examinations, and keeping them satisfied while waiting for their time. These nurses may not necessarily be graduate or trained nurses, but only good sensible women who are interested in the work and are willing to learn what you consider essential for them to know (I have two such women to assist me in my work, and find them very helpful indeed).

Now a word in regard to the infringements of the specialists—our attitude toward these should be mostly that of co-operation rather than that of antagonism. Remember if we as family physicians are well equipped for our work, they need our assistance in many cases just as truly as we need theirs. Just here I recall two most perplexing cases of choroiditis that were treated for weeks by noted oculists with little or no improvement, clear up beautifully, only when these eminent specialists referred the cases back to the family physician and co-operated with him in the treatments. In these cases the work of the family physician was fully recognized by these distinguished specialists. Such examples are becoming more and more numerous, and the services of a well-informed family physician are often desired by many of our most competent specialists. This being the case, a generous co-operation between these classes of physicians is not only desirable, but even essential for greater usefulness and success to us all. Moreover, when this mu-



tual confidence in each other's ability and character is observed we will find in many cases the able, honorable specialist is in reality the best friend in the profession to the family physician.

But again, while we are looking for the disturbing factors of our work—the real obstacles to our medical progress and usefulness,—let us not lose sight of our real enemies in dealing with the public. I refer to the impostors—the miserable quacks, the loathesome scavengers who feed upon the false impressions of the neurotic masses of a credulous public. Here the chiropractor appears upon this platform in his glittering apparel. It is obvious to us all that he must be dealt with; but, I should say, not with public expressions of chronic disgust or spasmodic contempt; but by cool, quiet, organized measures, and by legislation. If by such measures and pressure we can induce our legislators to compel these impostors to stand our regular State Board medical examinations, as we had to do before being allowed to practice medicine, we can practically eliminate this grave evil. Let us be alert in forming and pressing this plan, not only for our own good, but also for the public's interests.

Further, to consider again our situation with the public, and also with our professional competitors, let us open our eyes to the fact that most of our grievances with these are either imaginary or are the natural results of our social conditions. In view of this, let us wake up to a realization that a new order of things is upon us, and that we should fall in line with the nobler advances of preventive medicine, co-operate with our Boards of Health in their grand and noble work, show ourselves to be useful, patriotic citizens, maintain our own self-respect by observing the highest principles of honor and integrity,—cultivate a sympathy for our fellowmen, and learn, as far as possible, to live in the happiness of others rather than in the selfish indulgences of our own appetites and carnal desires. With the observance of these suggestions there is little or no doubt about our ability to increase our usefulness, but the question of increasing our income may be yet a problem for many of us. To succeed in this latter phase of our subject may depend upon many factors or conditions in each case,

such as locality, environment, the physician's judgment, his habits of business, etc. To increase our income as a whole this business side of the question should be taken up in our local societies and there discussed freely among ourselves with a most friendly, co-operative spirit. The regulation of fees could be discussed and agreed upon, and the advisability of adopting some business methods of sending out to our patients statements at regular intervals, reminding them of their indebtedness before the bills get too large for easy collection. In these meetings of our local societies the special problems that confront the physicians of each community should be taken up and studied by those who are especially involved. In all these discussions and plans, however, we should avoid, as far as possible, every appearance of organized efforts against the interests of the public. Indeed, a mutual interest should be our object; for we have, even in the face of our financial worries, no organized "union" or "combine," thank God!

Finally, in closing this article, I am sorry I am unable to give a more definite plan for us all to pursue, involving specific directions for the general increase of our annual income. Outside of the elimination of the great army of the quacks by legislation, and a similar check upon the patented medicine distribution, I don't see how this can be done; for there is no royal road in our profession to universal success, and any effort to find one, in my opinion, is the offspring of as dreamy a conception as that found among the misguided searchers for the land of El Dorado. Moreover, it is obvious that a course that leads to success for one man with a certain degree of talent and proficiency would be likely (in the same environment) to be a course of failure to another, with very different attainments, and so, in the last analysis, we are compelled to consider the thought of qualification and adaptability. Returning again to our central thought—shall we consider ourselves as deserving a place in the ranks of the survival of the fittest? If so, let us remember that, properly speaking, "the survival of the fittest" does not mean that popular conception: "The survival of those few who represent the highest state of development;" but rather the survival of those who, possessing ability, can make for them-

selves the most skilful, accurate adjustments to the irresistible tide in the changing conditions of our state of civilization. This latter

observation, after all, is the surest way, in any individual case, to increase the family physician's usefulness and income.

## Second and Third Prizes

(Note.—The vote on these two was a tie, so the second and third prizes were added and divided equally)

DR. W. M. JOHNSON, Winston-Salem, N. C.,

Usefulness and income do not necessarily go hand in hand. Certainly until late years, it has been proverbial that a physician who was a good business man was apt to be a poor doctor, and vice versa. Be that as it may, any doctor who wants to increase his income to the point where it will tax the ingenuity of an expert to salvage it from Uncle Sam's itching fingers, had best retire from the profession and go into a strictly commercial line.

There should be, however, a good living in the practice of medicine, and in no profession is the laborer more truly worthy of his hire than in ours. Much maudlin sentiment has been expended upon the good old doctor who dies leaving behind him a pile of unpaid bills, the memory of a life of good deeds, and a reedy family. I hope never to see the general practice of medicine put upon the cold commercial basis of selling real estate or taking out tonsils and appendices, but every doctor owes it to his family to make an honest effort to collect enough from his practice to keep them supplied with the necessities and comforts of life, and to leave behind enough estate or insurance to take care of them after he is gone.

In order to do his best work, the first requisite for the family doctor is to acquire the proper attitude toward his profession and his part in it. For the practice of medicine as a whole he should feel that there is no nobler calling. Surely Robert Louis Stevenson was never more in earnest than when he wrote after a life-long association with medical men, "The physician is the flower of our civilization." And more recently cynical Heywood Brown has written, "My own notion is that there are more fine men to be found among the doctors than in any of the other professions. The rigors of the job bring out admirable qualities."

There has been a tendency of late to magnify the importance of the specialist and to minimize the general practitioner. The spe-

cialists complacently accept the arrangement, and so do many practitioners. But why should they? Does it not require just as much brain power to minister to the whole body as to treat a section of it? And does it not require as much personality to keep a family satisfied as to use the magic word "specialist" as an aid to confidence? It is true that close and continued application to one part of the body brings increased skill therein, but it also tends to give a distorted view of the whole organism. As proof that both views are necessary, let me give a few instances that have recently come under my observation. One is that of a woman who went to one of the most noted surgeons in New York to get relief for persistent vomiting. After being "studied" for two weeks, her gall bladder and appendix were removed. No relief was obtained and after her return to North Carolina the discovery of a double choked disk—overlooked by the surgeon—gave the clue to a brain tumor, from which she soon died.

Another case was that of a man who had glasses fitted by a competent ophthalmologist for persistent headache, but did not obtain relief until a general practitioner got a four-plus wassermann on him and gave him appropriate treatment.

Still another patient had an impacted wisdom tooth removed by a dentist because of headache, which later yielded to anti-luetic treatment.

These cases might be multiplied, but are given as evidence that there is still and always will be a field for men who are able to view the human body as a whole. I do not mean to belittle the specialist, but rather to magnify the family doctor. As it was in the beginning, is now, and ever shall be, the family physician must be the bulwark of defence against the ills of the average family. Since this is true, why should he delegate himself or allow others to delegate him to the rear ranks of the medical army?

Let the physician read the stimulating addresses of that glorified general practitioner, Sir William Osler, and learn from him anew the lesson of the dignity of the medical profession as a whole, and of the family doctor in particular.

After getting the proper respect for his chosen profession, the next step for the family doctor is to decide not to let his work drive him any more than can be helped. At best, he leads a harassing life, albeit the most useful, perhaps, that can be lived by mortal man. Regular hours for calls, office work, and recreation lessen the burden. It is surprising, if one will only undertake it, to see how seldom he will have to leave the office for a period of two consecutive hours set apart for office work. Even if a few emergency calls are turned down, their loss will be more than made up by the increase in office patients who will come when they learn that the doctor may be found in his office at the same time day after day.

Of inestimable value to a busy doctor is a capable office nurse or secretary. It is surprising how quickly a bright high school graduate can be trained to greet patients, answer the telephone, make appointments, keep books, send out bills, drape female patients for examination, and do such routine laboratory work as urinalyses, sputum examinations, and blood counts. And if in addition she knows stenography and typewriting she is indeed a treasure.

It goes without saying that no doctor can be most useful, though candor compels me to admit that he may become rich, who does not keep up with the progress of medicine. To quote Heywood Broun again, "Certainly there is no profession in which the change of thought is more apparent from day to day. A clergyman could sleep for twenty years and come back to his pulpit and nobody in the congregation would find him any less adequate in his job than before he went away. I think a lawyer might still get by even after so long a slumber, and I'm sure an editor could. But where would a doctor be if he was ignorant of developments in his profession for even as short a time as five years?"

In order to keep up with medical progress, let us apply to ourselves Bacon's famous saying, "Reading maketh a full man, conference a ready man, writing an exact man." It is

absolutely necessary to read a few good medical journals. Most of their articles are summarized at the end, and this gives a clue to their value. With many, this summary is all that one needs to read. Others will bear reading carefully, and once in a great while one will bear repeated readings. The book salesman is a frequent reminder of current medical publications. My advice is to give him a hearing, but not to buy too many books. To quote Bacon again, "Some books are to be tasted, others to be swallowed, and some chewed and digested." For my part, I prefer monographs to systems of medicine, which are usually too bulky and cumbersome for ready reference, besides being so long in gestation that when issued, many of their articles are behind current opinion.

One plea I would like to make to my medical brethren is that they do not confine their reading to medical subjects alone, but devote at least half an hour daily to reading something absolutely foreign to their work. If this be done just before retiring, it will help to invite slumber to one's pillow.

As to conference, it may be obtained in several ways. Every doctor should attend all medical societies possible, and at least once every year or two take off from one to four weeks to browse around medical centers. Another valuable aid to growth in medical lore is to talk over as many puzzling cases as possible with colleagues. It is surprising to find how many valuable tips can be picked up in this way, even where there is no formal consultation.

The third part of Bacon's observation is absolutely true, as any man who has ever really "worked up" a paper upon any subject can testify. It is surprising how much clearer one's knowledge of a subject becomes after an honest effort is made to put it into written words that are easily understood by others. Any one who will try writing at least one paper a year will never regret it. And I believe that in lecturing to a class of nurses, any doctor will learn more than he will teach.

Another idea I have found valuable in my own case is semi-specialization or, perhaps better, concentration. The most versatile medical man living will not now attempt to practice all the branches of the healing art. No matter how ambitious, he can not carry



such a load. My advice to the general practitioner is gradually to eliminate one special branch after another until he is doing what he likes best. Even in a small town, where there are few or no out-and-out specialists, the doctors will find it mutually advantageous for each to do the work he likes best and let his colleagues have what he discards. Because of the drastic reduction in the number of medical schools, the field of medicine is the least crowded of all the professions, and will probably be so for the rest of our lives, hence there need be no cut-throat competition nor heart-burning jealousies among us. Let every doctor learn to think of other doctors, not as competitors but as co-workers, and learn to be what the Germans term most aptly "collegial." When we get to the point where we can take Sir Thomas Browne's advice to "Let age, not envy, draw wrinkles on thy cheeks," we shall be better doctors as well as better men, our usefulness will grow, our income of happiness and satisfaction—and I verily believe of money as well—will be greatly increased.

The usefulness of a doctor should not stop with his practice. He owes it to his community to be a well-rounded citizen. I am not suggesting that he enter politics, but he should at least use his influence, which is greater than he realizes, upon the right side of every public question. In the much-maligned luncheon club he can help and be helped, for Samuel Johnson would consider the average doctor a "clubbable" man. Although he may not be a regular attendant at his church, he can at least show some interest.

His family, too, have some claim upon him, but they must learn to come second to his work. The doctor may truly say to his wife,

"I could not love thee, dear, so much,  
Loved I not honor more,"

for his honor is dependent upon the successful prosecution of his work. He can, however, share his holidays with them, go for motor trips on Sunday afternoons and occasional week-ends, and take his wife to medical meetings or to spend a week or two in a medical center, which is apt to be also a theatrical center.

If the average doctor whose practice is

pretty well established will take a month away from his work every year—not necessarily in one vacation, but in one solid fortnight of real rest, and several shorter periods devoted to medical meetings, post-graduate work, or week-end visits to relatives, I verily believe he will live longer, do better work, and enjoy his work more. And if one afternoon a week is set apart for recreation, it will not take one's regular patients long to learn and respect this custom.

What has been written so far has been devoted mainly to the increase of usefulness rather than of income. With increased usefulness, however, which means increased opportunity for service, if any kind of business method is used, the income is bound to increase also. To a doctor with a reputation established for doing careful, honest work, for keeping abreast with the times, and with confidence in his own ability maintained by the knowledge that he is "up" with modern medicine as far as possible, patients will come and send others. Then his fees can be increased in proportion with the growth of reputation and ability. With a competent office secretary to keep books and send out statements promptly, there is every reason why the family doctor should reap the financial rewards due him as well as the sweeter but more intangible ones of the gratitude and affection of his patients.

The proper investment of his surplus is a problem. It is almost axiomatic that the best way to accumulate property is to go into debt for something of value, and then pay out as fast as possible. With a definite obligation to be met, there is far less temptation to be extravagant.

For one, I have neither talent nor inclination to follow the changing fortunes of the stock market or the rise and fall of real estate values. Whenever I have attempted a small flight into such realms, I have found that my professional acumen has been lessened for the time being. I believe that the solution of the problem is to find a friend who does know something about investments and trust him for advice. It is not hard to find a reliable realtor who will advise honestly about desirable real estate, and most of us know a bank official who can be trusted to give good counsel about the purchase of stocks and bonds. The "living trusts" offered by trust



companies offer a safe investment without worry. It seems to me far better and less nerve racking to depend upon some one who should know about investments than to add to the burden of practice, the responsibility of choosing one's own. When a definite investment is paid for every year, it is gratifying to see an estate grow steadily, even if

not with mushroom rapidity.

First, though, I believe that the most important investment for the physician is enough life insurance to maintain an adequate income for his family in case an active streptococcus should get into his blood stream, or his automobile attempt to play airplane.

DR. H. J. LANGSTON, Danville, Va.

Apparently there has been very little in the pages of history that gives evidence which would suggest how the family physician could properly increase his usefulness and at the same time have an income commensurate with his life work. It is timely, therefore, that suggestions should be made which would produce a more useful life in the family physician and at the same time provide for his household.

Principles which should be followed in order for the family physician to increase his usefulness are as follows:

1. Proper attitude.
2. Proper spirit of co-operation.
3. Proper understanding of his life work.
4. Proper vision.
5. Proper understanding of the social group.
6. Open mind toward all things both old and new.

1. Even though history reveals the good work of the physician there are many evidences all along the way which show that the physician's usefulness has not been as great as it should have been because of the wrong attitude. He has had the wrong attitude toward his fellow practitioners and in many cases toward his patients. Because of this wrong attitude his usefulness has been greatly impaired and he has failed to accomplish what he should in his very important calling. The physician's attitude should be that of recognizing his fellow practitioner as his brother and friend and never as his competitor. The objective of each physician should be that of stamping out infectious diseases and assisting people to live a normal healthy, happy life. The selfish attitude, therefore, of trying to get a fellow practitioner's patient is destructive and harmful and frequently leads to bad feeling; also it gives

the wrong impression to patients. Patients should not have the impression that all the doctor wants is a patient and a fee. On the other hand, the impression should be that the doctor is tremendously concerned about finding out the causes of diseases and as far as possible removing these causes and as he removes the causes he is able to help the patient to regain his or her health. The attitude of the physician should be very similar to the attitude of Jesus of Nazareth. No finer thing can take place in the profession than developing the right attitude. It will do more to increase the usefulness of the family physician than one can estimate.

2. The family physician should have a real spirit of co-operation with his fellow practitioners and with the city and State Boards of Health. His objective is that of these bodies and if that spirit can prevail in an effort to prevent diseases and also in an effort to help the public to understand the importance of having all ailments looked after scientifically, the physician will not only become more useful but his income will be very much increased. On account of the bad spirit no doubt we have given the finest opportunity for the irregulars to come in and do their deadly work. In truth there is a real necessity among the physicians for a co-operative helpful spirit.

3. The calling of a physician is no doubt one of the highest of all the callings of the human race. His contacts with the members of families is very different from the contacts of any other calling known to man. His opportunities are unlimited; his chances to do good or to do bad are much greater than in any other calling. If he has equipped himself fully and understands his life work he can help many people to understand why we have so many infectious diseases and how

many of these diseases can be prevented; also why certain diseases should be looked after promptly and properly. In this connection he will be a great benefactor to society in an educational way in imparting to the fathers and mothers such information as will make it possible for them to reproduce the finest specimens; how the expectant mother should be taken care of and how the new-born baby should be looked after in order to prevent many infectious diseases and to treat such diseases as may befall the child.

4. The vision of the physician should be as large as humanity itself. He should be able to see why we have to carry such heavy burdens in the way of institutions that are non-productive, and are a constant liability to society and how we should begin to take steps to eliminate these heavy burdens. These burdens will continue to increase with the growing of civilization unless the vision of the physician increases and he begins to play the part he should in preventing certain nervous crashes and mental derangements which are so common in our nation at the present time. His vision should not only include this pathological section of society but it should include that of seeing that every member of society in his neighborhood is kept as nearly healthy as possible. If there is a section in it that is very much diseased the healthy section is also endangered.

The physician's vision should not be superficial by any means, but it should be far-reaching in that he is thoroughly acquainted with history, sociology, economics, psychology, industrial and agricultural problems that face us, and the various religions. He, of all men, should be most tolerant in his conception of humanity. He has the position of knowing the causes of a good many things that actually exist and therefore compassion should be one of the things that should always be upmost in his outlook on life.

5. The physician goes into every type of home on the face of the earth. He sees, like no other person does, the prevailing sociological conditions. He, of all persons, should be thoroughly trained in the principles of sociology in order that he might understand the vast problems that face us in our social life at large. Until many of these sections of society that live in hovels and huts under insanitary conditions are brought into better

houses, better sanitation, better social environment and better education, we will have them as liabilities. Until this problem of the social life in our country is solved it is impossible to say that our society is safe. Then there is a great gap between the higher, the middle class and the lower social groups. This gap should be bridged over and the physician with the proper understanding of the outstanding difficulties in these groups can diplomatically, tactfully bring to pass better social conditions by revealing to the members of the human family the real difficulties.

6. All through the history of medicine and surgery progress has been slow because of the fact that men's minds are closed to anything new and also closed to a great many things old. Of all the persons in the world, the physician should be the last to allow his mind to be closed to any principles of fact with which he is not thoroughly acquainted. There are many things old in the practice of medicine that are good; many things that are bad. There are a great many things new in the practice of medicine that are good; there are some that are perhaps bad, but we should keep the mind alert to thresh out and discover the true facts and these should be the instruments to be used in our daily toil. If the mind of the physician is open and is willing to grow, the next twenty years bids fair to bring us new discoveries in our field of work which will make us far better physicians, and humanity at large will be the beneficiary.

Now, the principles that should direct the family physician in increasing his income are as follows:

(1) Deal with people in a business-like way. Be certain that you are interested in the ailment the patient has and that he is your primary concern. Let that idea be upmost in the mind of the patient. When results have been obtained and the patient is well, let the patient understand that you expect reasonable fees for your services and if the patient is well-to-do and able to pay more than the average fee, that patient should pay the fee charged willingly and gladly. The physician will be able to create a habit of promptness on the part of many of his patients if he will deal fairly and frankly about the business side of it.

(2) Have a good system for keeping rec-

ords right, the fewer errors made in the physician's office the better off he will be with reference to his income. If he is careless and slipshoddy, then the patient will become careless and indifferent. If the physician does not have a system and cannot work out one for himself he should have someone work out one for him.

(3) The family physician should systematically plan for his household; that is to say if he has three children or more, he should begin early in their lives in setting aside so much money each year to pay for their educations. There are a good many ways this can be done. He can either put it in a substantial trust department of some good bank or he can invest it in certain securities that are reasonably safe and then when the boys or girls are of college age they will have something definitely ahead of them to pay college expenses and to pay for their professional training.

(4) The physician providing for his household again, should carry insurance on his life; that is, general life insurance and accident and health insurance. If he systematically and in a business-like way takes policies in

good standard companies, when the rainy day comes his family will not be left in need. Concretely speaking, the physician whose income is \$10,000.00 a year should by all means carry approximately \$50,000.00 life insurance and a reasonable accident and health policy. The physician may have to skimp and make a good many sacrifices but such skimping and sacrificing is worth while.

All physicians should have the principles as outlined above always before them in the conduct of their professional work and in the management of their personal business affairs. It is commonly said that the physician is very careless about his personal accounts with reference to patients. The day will arrive when people will not say this; also the day will arrive when people will say that the physician is primarily concerned with the health of all the people of his community and then with the health and happiness of all people. When these things come to pass the family physician's household will be well provided for and he will be one of the most useful and influential citizens of every community.

## Other Essays Receiving Votes for Place

DR. J. A. NORTON, Conway, S. C.

I have been in the general practice of medicine for twenty-five years. Lately, by reason of the vast and varied changes occurring in such practice, I have been seriously considering, not the optimistic methods and means of increasing my usefulness and income, but rather the serious inquiry as to whether by reason of such changes I would soon have any occupation at all at my disposal to warrant my seeking such increase.

In this day of mass production of factory and business by means of division of labor and specialization of effort, typified in the medical profession by specialism, hospitalization and group practice, the family doctor is anxiously scanning the horizon trying to locate his special place in the sun. In the thronging changes of medical practice, as in the old-time parlor game of "fruit-basket," he seems the only one left without a seat. (And aside, I'm sure I hear some snickering

going on over amongst a group of specialists in an amen corner at his predicament.) Meanwhile, he stands there nervous, red-faced and self-conscious, hoping that some one will soon yell again "fruit-basket," and he can once more find a suitable spot for himself in the arena of practice.

The announcement has just been made that over in England some one has called out "fruit-basket," and that there the light for the family doctor is breaking, that physicians there are largely returning to general practice in deference to the popular demand for their services and the consequent better financial returns to them. So we may accept it, in this world of cycles, that the pendulum is swinging back strongly in the direction of the family doctor, and that there is a definite place in the practice of medicine for him.

I have been convinced of the truth of this position by reason of my study of it through the past several years. In fact, I have been



particularly drawn to this study of the place of the family doctor in civil practice since my discharge from the army, where my experience proved to me that there was absolutely no place in the medical part of the army as now organized for a man in general practice. The attempts of the surgeon-general's office to place this large class of medical men in suitable places in the military organization were so ineffectual that they were compelled early in the war to make these men fit into the military life by giving them complete courses of study in the different specialties. And this probably accounts for the great wave of specialism that began to sweep the country just after the war. Anyway this experience brought my attention right up against this question of the present and future position of the family doctor in civil life, and after serious study I am definitely of the opinion that there is a positive place for such a type, but that such place is not as yet precisely defined, but must be cautiously worked out by a proper study of the needs and requirements of our present social organization.

The history of the old-type family doctor is a glorious one, and one of which we can all be properly proud, but the possibility of the new-type family doctor is shot with much more glorious prospects. But this brilliant future must be met by the family doctor with a full knowledge of the professional culture it will necessitate and the practical wisdom it will demand; for the future work of the general man will not be the hit-or-miss system of the old-type, but experience will soon prove to him that his science and art and their practice must be "mixed with brains, sir," as Opie said of his paints.

In a sketch as necessarily brief as such a one as this must be, of course I cannot go into any details at all, and my suggestions for the betterment of the affairs of the family doctor must consequently be brief and general, applicable to and adaptable by all alike. But I may add that though these suggestions are all general, that I have not recommended anything but what has been more or less tried out by myself in concrete form and proven practicable. The exact form in which I use them in my own practice may not be at all adaptable to yours, and so in the language of Jeff, "I prithee, use discre-

tion!"

As the very basis of the betterment of the work and returns of the family doctor stands the safeguarding of the family doctor's own health. He must in the future practice what he preaches, a living and actual example of following his own good advice. He must not only know what it means to eat and dress for health, but also to work and play for health. This means that he must so organize his work that both the need of exhausting night and overtime work (except in event of the direst necessity) and the dispiriting continuous day-after-day and year-after-year treadmill will be alike obviated. Extreme fatigue and lassitude are dangerous to your patients, but doubly so to yourself. You must have time for study and recreation, for obligations and duties outside of your practice, and especially for your annual three or four weeks away from your practice either for an entire change of scenery or for a well-purposed post-graduate course. This means that the new-type family doctor will not desire one of these extra-large practices, but a moderate one intensively cultivated.

Speaking of post-graduate courses brings us right up to the second exaction of the new-type doctor, and that is that he be a thoroughly expert, exact and complete diagnostician. With all the laboratory and mechanical helps to this end, I believe the old-type doctor with the acute bedside training of his five senses and his psychological insight picked up by practical application of previous lessons learned in the rough school of experience, held a slight advantage over his successor in the necessarily rough-and-tumble application of this art in extra-hospital practice. Disciplined observation and cultured experience will greatly aid the new-type doctor here, with or without a laboratory, but a laboratory used carefully is now a necessity.

The family doctor must be a thorough diagnostician or he cannot satisfy my next demand of him, viz., that he be able to assume the full and complete responsibility for the conduction of his patient along the whole route of treatment and cure. This simply means that his exact knowledge of therapy, medical, surgical and special, is so intimate and outstanding that he can from his clear-cut diagnosis, immediately map out the re-



quisite therapy and either personally conduct the patient through such course or minutely advise him or better carry him where it can best be done.

In all this professional work, there is a definite demand on the family doctor for the specific and exact use of "personal contact" with the patient. This necessitates a reasonable and definite knowledge of human nature and the laws governing it, otherwise known as the science of psychology. The proper and precise use of this agency will very nearly make the family doctor professionally, and neglect of it will go far toward marring his usefulness. For this and many other reasons I am emphatically stressing this powerful influence wielded by the use of this means on professional practice.

Another requirement that the modern family doctor must needs to know capably for the realization and perfection of his usefulness is the science and art of modern salesmanship. Not of course for aid in selling his work, but as an essential aid in assisting him to correlate his work with that of all the other work that now goes to make up the professional and business mechanism of our social organization, and to dovetail his work in with that of the others for the proper evolution of a competent body politic. But more than anything else the study of this subject will enable the family doctor to properly evaluate the worth of the work he is doing for the benefit of society.

The present vocation of the family doctor is not an isolated one as was very often the case with his predecessor, but stands out as a professional business working together with other business interests for certain definite ends, and it will take expert salesmanship both to understand such relationship and to make such relationship understood by the public. For only by such understanding will proper credit be given the family doctor for his work and proper returns made to him for his investment in his career. For when a man puts capital into a business concern he certainly expects adequate return from his investment, and usually gets it, and no less should the man be certain of adequate return who puts yearly capital into his brain.

Another important feature of this knowledge of expert salesmanship is that professionally the family doctor must be able to

"sell" to his patient the exact treatment that is necessary for his patient, and as I intimated before to assume full charge of such treatment in all its phases, whether at home, office, specialist or hospital. It is only by so doing that one of the most important future functions of the family doctor can be developed, and that is the proper and requisite co-ordination of all treatment of that patient to one definite, pre-determined end. This complete co-ordination of treatment will not only be a benefit to the patient from the standpoint of health, but will also be a benefit financially, as the family doctor who is intimately acquainted with the patient and knows his financial condition, can prepare and impose a co-ordinated bill, justified by his accurate knowledge of salesmanship.

There are many "tricks of the trade" that the success-hunting family doctor must learn in the cold light of experience. For instance there is the problem of the building of an adequate office practice, with its hypodermic and intravenous therapy, and biologics, serums, vaccines, etc. There is a knack about office practice that must be learned, but it will repay itself many times over as the family doctor gets a little older and older, and must limit himself, willy-nilly. It will prove a strong bulwark of defense when late in life the family doctor is trying to keep the wolf from his door, the very wolf that the recent graduate is doing all in his power to "shoo" to that very door.

This about loosely covers the field that I had mapped out, but before closing, I wish to give the new-type family doctor two suggestions for his betterment, and I have saved my very strongest suggestions for the last. In the first place, after he has gone all through the years of preparation, grammar and high school, literary and medical college, hospital internship and state board and has now his license in his hand, ready to tread with proud step the road that leads to poverty and oblivion, will you, as that licensed man, allow me to make one eternal suggestion for your most exalted good? If so, it is this: turn your back on that which you hold in your hand, open up a modern chiropractor's office or an up-to-date funeral director's parlor, and live in pride, peace and prosperity.

Ohho! so you don't want to do that! You

want to unite yourself to what has been termed "a noble profession, but a damned poor business." All right, then, here is my last bit of advice to you: marry early, as early as possible, and marry a young girl, a rich young girl, and be sure that she is rich, and be sure that she loves you—loves you so much that you can induce her to come across frequently with a winning smile and a helping hand—the smile may help some but God knows you are doing to need that helping hand and you had better hang on to it.

I verily believe that the only man that can really practice medicine as a family doctor to the best advantage is one who is absolutely exempt from all financial annoyance and worry. For by this means only can the doctor do his best work, select the cases he wishes, and cut out the deadwood, insist upon the proper and necessary treatment in both material and time, have plenty of time for study and recreation, and by such selective method of work have a

consequent ability to increase monetary returns. But when harassed by debt, by family demands, by the necessity of keeping up with his community life, by this, that and the other, a doctor, family or otherwise, feeling that he must answer every call, must be going night and day, on and on, without rest or recreation, cannot do himself or his work justice, and must necessarily fail eventually of his initiatory promise.

"Money is not everything, but everything worth while represents money." As Bobbie Burns puts it:

To win Dame Fortune's golden smile,  
Assiduous wait upon her,  
And gather gear by every wile,  
That's justified by honor,  
Not for to hide it in a hedge,  
Nor for a train attendant,  
But for the glorious privilege,  
Of being Independent.

---

DR. M. O. BURKE, Richmond, Va.

No man should adopt the medical profession who expects to find in his choice an easy life or hopes by this means to amass a fortune. He is generally fully paid in gratitude, reputation, money or a satisfied inner feeling that he has done the best he could and that his best was as good as any man could do.

The family physician should first be a man; he should be well grounded in the science of medicine, a good reader of human nature, a psychologist, if you will, for "mind is master of matter."

We consider a diploma and a certificate from our State Boards sufficient evidence that a man has been properly trained to begin the practice and study of medicine.

From the title of this paper we are considering the physician who has served his apprenticeship in the college, the hospital and the home, and now would broaden his field of usefulness to his people and to himself.

Courtesy, dignity and sympathy are valuable remedies.

I would say that the keynote of success is eternal vigilance and system.

The family physician has very little time

for extensive reading. He can keep abreast of the ever increasing tide from a few of the leading journals.

He can take a little time each day for the study of books and journals.

Review each day's work and make a note of something gleaned from written page or patient or a lesson taught by nature.

Systematize and budget each day's work before beginning visits; this will save time and often prevent covering the same ground twice.

Keep accurate notes of each patient. This can be done by having a filing system with sheets that fit the pocket; a few minutes only at the bedside will accomplish the recording. Such notes may save embarrassment 10 or 20 years later. Let me illustrate:

A few years ago I received a note from a former patient, a mountaineer—

"Dear Doc:

"Please send me some of that truck what you give me in June, 1894.

"Yours truly."

My notes and not my memory enabled me to know what he wanted.

He should take a vacation each year and spend it in some hospital or clinic.

He should attend the local, county and state medical meetings if possible.

He should familiarize himself with hygiene and sanitation in the home and in the community.

He should know what his people eat, how the food is prepared and how his patients live.

He should be the best diagnostician in the world.

Examine each patient carefully not only for the apparent illness but for any concurrent trouble and measure the capacity of the vital organs; look out for weak places in the machinery.

Knowing the patient and his environment is as important as diagnosing the disease.

Advice is often as valuable as medicine.

A sense of humor often tides one over a treacherous stream.

We can learn something from each patient that may help materially in treating some other patient.

Some of the most important things in medicine are not written in books.

A small laboratory is almost a necessity. This need not be extensive nor expensive but should be sufficient for routine work.

Promoting his own material good depends upon the value of his services and the financial condition of his patients.

It is well for a man to put a premium on his services provided he knows that he is giving as good as can be gotten.

People generally value us a little lower than we value ourselves.

Charge professional fees for all work, keep accurate books. This can be done only by posting the day's work in day book or ledger each day.

Send monthly statements. It is much easier to collect small bills than large ones, and a doctor's services are much more appreciated at the time rendered than they are six months or a year later.

Some patients are not able to pay professional fees. It is well to charge the full amount and discount the bill in proportion to their ability to pay. Do not pauperize your patients by not charging for your services; on the other hand refuse to accept payment when it deprives your patients of

the necessities of life.

"A bad collector is a poor paymaster."

A doctor's profession is his capital, and capital is easily squandered.

A monthly and yearly budget of income and expense is very helpful.

The man who tries merely to keep even will soon fall behind.

Insurance is a safe investment; it should be taken early in life. It is thus much cheaper.

Doctors are not good investors if they are good doctors. It is best to rely upon the advice of your banker in all investments.

Find something that will relax the professional grind, in short a hobby, but don't ride it over your professional duties.

When well established limit the number of families so that they can be properly attended.

Contribute to civic, church and charity enterprises. Be careful of subscriptions. They are promissory notes; easy to give and hard to pay.

The doctor's health is important to himself, his family and his patients. He should know how to preserve his own health as well as that of his patients.

Most night calls are unnecessary; a little explaining beforehand will obviate many a sleepless night.

The family physician knows more secrets than the priest and should keep them as sacred.

A sympathetic listener, a good advisor and a consistent actor are highly appreciated by every one.

The family physician is confessor, counselor and sympathizer as well as medical director.

In the good old days of long ago when the people worked but all were poor the medical profession was a sacred calling and the doctor was more than an ordinary man. Scientific medicine was born, the -ologist showed us that medicine was too large a field for one man to farm—thus evolved the specialist; later group medicine and clinics.

The world war changed everything and wellnigh exterminated the family doctor.

Our country has become so prosperous that the slogan is, "the more you spend the more you make," and if our debts were paid and we had to live on a cash basis most of our



people and especially the doctors would be wellnigh bankrupt.

This is the gasoline age, industries have expanded, the scale of living increased; distances have been eliminated, the cities have become over populated and the farms depopulated.

Group medicine is flourishing and every

graduate hopes to specialize.

Time will change and the family doctor will come into his own.

The specialist will always be a necessity and group medicine will continue, but the family doctor will be "the power behind the throne."



## THE INTRAVENOUS ADMINISTRATION OF MASSIVE DOSES OF SODIUM IODIDE

CHAS. B. HERMAN, M.D., Statesville, N. C.

The administration of iodine and its salts is one of the most ancient and common procedures in medicine. For many years preparations of the iodides have been given intravenously in doses of 15 to 20 grains. The object of this paper is to discuss the use of sodium iodide in much larger doses. In giving the iodides, it is well to keep in mind the more or less striking difference in the action of potassium and sodium. Potassium is depressant, sodium only slightly so, requiring fourteen times as large a dose to suspend contractibility of the heart muscle as compared with potassium. For this reason, in the intravenous use of large doses of sodium iodide, we do not anticipate the depressing influence on the mental and muscular systems, as in similar doses of potassium iodide. Hence sodium iodide is used because of the relative inactivity of the sodium ion.

Experiments of Weed and McKibben show that the bulk of the brain can be controlled by a change in the concentration of certain elements in the blood stream. They have shown that the intravenous injection of *hypertonic* solutions of certain electrolytes and crystalloids cause a transient rise in the intraspinal pressure, followed by a marked fall which persists for a considerable length of time. On the other hand, the use of *hypotonic* solutions of the same substances causes a persistent rise of the intraspinal pressure. The injection of *isotonic* solutions causes no change in pressure.

At the same time, they observed a distinct alteration in the bulk of the brain by using *hypertonic* solutions of sodium chloride. Their experiments were made on animals with the skull both open and closed. The brain was seen to fall away from the inner surface of the skull several millimeters after each injection. These observations led the experimenters to believe that the brain should no longer be considered as incompressible or of fixed volume, but that it is subject to variation in size. In short, the conclusions to be drawn from the above report are as follows: the intravenous injection of a *hypo-*

tonic solution produces a marked and sustained rise in intracranial pressure and an increase in brain bulk; whereas, an intravenous injection of a *hypertonic* solution produces an initial rise, then an immediate fall which is sustained, and a decrease in brain bulk. The cranial cavity is filled with brain, blood and cerebrospinal fluid. Variations in any one may occur, compensation being afforded by the alteration in volume by one or both of the remaining elements.

Foley has shown in the human subject that intravenous injection of *hypertonic* salt solution, or the ingestion of salt, produces a fall of cerebrospinal fluid pressure and a diminution of the brain bulk. In conditions of pathologically increased tension, the response is conditioned by the details of the pathologic alterations. The determining factors appear to be the size of the lesion which increases brain bulk and the amount of fluid available for absorption. The induced fall of pressure is *inversely* proportionate to the former and *directly* proportionate to the latter. A distinction is to be made between increased intracranial fluid tension *per se*, and increased intracranial tension which is due to enlargement of brain bulk. The most striking results are to be obtained in those cases in which cerebrospinal fluid obstruction exists.

That these changes are independent of the amount of fluid injected and probably due to the fundamental osmotic effects of the *hypertonic* solutions might be illustrated by the action of a hypertonic solution of sodium iodide in such disorders as secondary edema in arterial conditions affecting the brain. Intracranial pressure may frequently be controlled by the variation of fluid intake and elimination. Since increased intracranial pressure is a very important factor in certain diseases, especially meningitis, the alteration of brain volume by the intravenous injection of hypertonic solutions can be made use of to control the pressure.

When various preparations of iodine or the iodides are given by mouth symptoms of iodism oftentimes manifest themselves. Such

symptoms as increased salivary secretion, metallic taste, morning nausea, occasional vomiting, slight coryza, loss of appetite, frontal headache, and various forms of skin rashes appear (the most common form being that of an acne-like eruption).

By the proper preparation of sodium iodide for intravenous administration these untoward symptoms are gotten rid of, even when the drug is given in very large doses. The method used in preparing the solution for intravenous administration is that used by Dr. Fredric Farnell, of Providence, R. I. The preparation is as follows:

100 c.c. of freshly distilled water is autoclaved for twenty minutes; to this is added 155 grains of sodium iodide (if a 10 per cent solution is to be used). The solution is then boiled for a minimum of ten minutes. It is then filtered through a sterile filter, allowed to cool, and given immediately intravenously by gravity method.

All of the utensils used in preparing the solution should be used only for this treatment.

The average dose is 100 c.c., which is repeated at four to seven-day intervals. In giving the iodide intravenously it is a good plan to give a small dose (about 20 c.c. of a 10 per cent solution) to see if the patient is very sensitive to the drug. After this preliminary dose has been used, it is safe to give 100 c.c. several days later if no symptoms of iodism have developed. Of the patients treated by the writer, there has been none who developed symptoms of iodism.

#### CASE REPORTS

White man, 32 years of age.—Had an attack of lethargic encephalitis four years ago, which was followed by a typical parkinsonian syndrome. This patient had a mask-like appearance of the face, spasticity of both upper and lower extremities, coarse intention tremors of the upper and lower extremities. He had marked time for three years (raised one foot and then the other alternately); also complained of severe headache. He has been given treatment at weekly intervals of 155 grains of sodium iodide each dose. To date, he has taken ten treatments. The spasticity is much less pronounced;

the coarse tremors are rapidly subsiding; the salivary secretion has diminished and the patient no longer marks time. Symptoms of iodism have not manifested themselves after an injection.

White girl, 22 years of age.—Patient was bedfast as a result of an attack of encephalitis three years ago. She presented a mask-like facial appearance, marked spasticity, and was unable to move in bed or feed herself without assistance. To date, she has received eight treatments. She is now able to come to the hospital for treatment and is also able to feed herself.

White man, 60 years of age.—Suffering from atactic paraplegia. Is showing some improvement under treatment but not as much as the two cases of encephalitis, which have just been reported.

The probable explanation of the relief of symptoms: headache, muscular twitching, tremors, spasticity, etc., in the cases of encephalitis is that cerebrospinal pressure in general is lowered by the hypertonic solution of sodium iodide and the fluid contained in the tissue spaces of an edematous area, the perivascular drainage of which has been obstructed by cell infiltration is absorbed back into the blood stream.

If the morbid anatomy of encephalitis is recalled, it is remembered that the changes found in the central nervous system are chiefly in the upper part of the pons and in the basal nuclei, and consist of perivascular infiltration, with small and large mononuclear leucocytes. There is no destruction of the ganglion cells as is found in poliomyelitis.

The exact manner in which the iodides act in infections is still a subject of much discussion and speculation. Nevertheless, it is a fairly well established fact that diseased cells are less resistant to the iodides than normal healthy cells. Therefore, these unhealthy diseased cells contain a greater amount of the iodides than healthy cells.

The other cases that are now under treatment with massive doses of iodides that are showing marked improvement are several cases of trifacial neuralgia, one case of chronic asthma which is independent of cardiac or renal disease and without ascertainable cause, a number of cases of tertiary



syphilis with positive wassermann reactions after many doses of neosalvarsan, and several cases of hemiplegia. None of the cases under treatment has had symptoms of iodism.

Some of the patients following treatment have complained of a bitter taste in the mouth for several days. One had increased salivary secretion for a day or two following treatment. None of the patients has had symptoms of gastrointestinal disorder or coryza.

Unskilled administration of the iodides intravenously may give rise to serious consequences. The apparent effective dose is from 80 to 150 c.c. of an 8 to 15 per cent solution (the average is a 10 per cent solution).

In giving the iodides, the following precautions are necessary:

1. A small preliminary dose to ascertain

the resistance of the patient to the drug, as many persons present an idiosyncrasy to iodine.

2. A freshly prepared solution should always be given.

3. Avoid giving a solution that is not absolutely colorless, for a brown or yellowish color indicates the liberation of free iodine.

4. Always test the solution after it has been prepared to see that it is alkaline (this may be done by litmus paper, phenolphthalein).

5. Every drop must be placed within the vein, because it is highly irritating and provokes intense pain in the subcutaneous tissue.

6. The solution must be slowly introduced into the vein (about 5 c.c. per minute) under strict aseptic conditions.

## REMARKS ON THE IMPORTANCE OF THE CONSERVATION OF MENTAL HEALTH\*

JAS. K. HALL, M.D., Richmond, Va.

Wastefulness is one of the chief faults in our life—national and individual. Our country has been so stocked with God-given resources that it has only lately become possible for us even to contemplate the exhaustion of some of these resources. We have wasted in shameful fashion our soil, timber, coal, gasoline, oils, live stock, game; and we have been and we are still improvident of human life.

But amongst the great nations of the earth we take rank in age at least as a pioneer. Nationally we are just stepping forth into lusty manhood, and across the seas we are looking upon nations hoary with age as they go about their daily life with slowed steps and creaking joints. The pioneer is always wasteful. He simply harvests the bounties of nature. Another has sown; he gathers up. Conservation is a process about which he knows little and about which he cares even less. And that same primitive instinct is dominant in us, the descendants of pioneers. We see that same trait in children—the in-

clination to make brief use of the toy, and then pull it to pieces, or cast it aside, and cry for the novelty afforded by some new and strange mechanism.

Thrift is not amongst our inheritances; scarcity only inculcates the tendency to save. But many of our natural resources are becoming scarcer, and we are being made to know the necessity of less prodigality in their use. An aged mountaineer of this state told me that long after he had reached manhood the mountain sides were covered with great hardwood trees—thousands and thousands of them from four to six feet perhaps in diameter. They were felled, their bark was stripped for the tanneries, and the trunks lay there to become transformed by the chemistry of darkness and dampness and time into soil, which, because of the steep slopes, was useless for agricultural purposes. And much of that splendid soil, formerly retained on the mountain-sides by the roots of growing trees, slipped, upon their death, down into the streams, blocked them, and caused them to overflow, so that the low lands became relatively valueless. Destruction, waste, improvi-

\*Read by invitation before the Watauga Club, Raleigh, N. C., August 22, 1927.

dence—Esau giving away his birthright.

In those early days of our national life practically all motive power was of muscular origin—furnished by the bony and muscular mechanism of man and of the beasts dominated by man. Physical strength was almost deified by man. Such strength was a necessity. Our national life was founded by it and rested upon it. George Washington had physical endurance beyond that of his fellows. In the terrible battle in the wilderness of Pennsylvania that resulted in the defeat of Braddock history tells us that Washington was incessant in activity night and day for almost a week. Some, at least, of the military prowess of Stonewall Jackson was due to the physical stamina of his foot-cavalry.

But the day of success based upon muscular power and physical strength is no more. Never before in the world's history has strength of muscle in man been of so little consequence. Man is no longer looked upon as a motive mechanism. He has caused the falling water, restless in its troubled way to the sea, to do the work of myriad men and countless beasts; he has compressed the boundless and impalpable air so that it does his bidding; from the spacious bosom of Mother Earth he has brought forth the limpid fluid that has made possible the internal combustion engine; out of the hidden recesses of the mountain ranges man has hoisted the lumpy blackness with which he has supplied himself with heat, light and power; and by this method and by that he has generated the electric current which serves his purposes in fashions so innumerable and mysterious as to confound his understanding of his own handiwork. Verily, the cry of the pioneer was: Give me power. The prayer of his children of today is: Give us knowledge of ourselves that we may be able to develop the skill and the cunning in order to make use of the boundless power at our disposal.

I am not going to be so foolish as to allow myself to be led into philosophic water so deep as to encompass my mouth and my nose, with resultant personal asphyxiation. You must carry away with you your own conception of what the mind really is. But I cannot doubt that each of you believes that such a human attribute exists. What is it? Do you think of it as that quality which enables a man to have awareness of the universe, as

well as of himself? Well and good. Is it an essence of the physical being? a property of matter? or does it only make itself manifest through the medium of the physical structure? Would the multiplication table, the Newtonian law, the atomic theory, and all the other majestic natural laws which govern the universe become nil and of no effect if all the human brains were to become dissolved into their constituent elements?

Portions of the brain are projected as far from the brain as their safety permits, and these brain-outposts we call the special senses: the eyes, on the very front of the head; the nose, even beyond the front of the head; the ears, those ugly, out-sticking protuberances; the tongue, mobile and far-reaching, and often an evil member; and the skin, the largest sensory organ of all. These projections of the nervous system, these antennae, pick up for us information about the universe which surrounds us, and out of this inflowing information is built up our conception of the universe and all the creatures and other things that inhabit it. Through the physical mechanism we become conscious of our surroundings, and through the medium of bones and joints and muscles we are enabled to make response to the objects around us. A human being is, or should be, exceedingly sensitive, and equally as responsive, to sensations.

Human living is almost entirely a matter of making adjustments. Adequate adjustment implies wholesome living, poor adjustment means poor living. The effort to keep ourselves constantly in comfortable tune with our individual universe embraces the whole art of living. The universe is actually constantly being enlarged. We are obliged to respond to millions of stimuli that were not even in existence in the days of our ancestors. You know them—the cursed mechanical necessities of this metallic age: the telephone, the telegraph, the typewriter, the radio, the automobile, flying machine, submarine, and all those countless mechanical devices engaged in the fabrication of this thing and that in factory and in shop. Modern civilization has decreed that we must each fit into some sort of mould that has been adopted by the neighborhood—that we must have the same sort of instruction in order that we may be less unlike each other, so

that there will be a minimum amount of friction, as we go in and out amongst each other. The attempt to bring about a sort of universal standardization has always played the devil, and I hope it always will. We have come to a bad pass if we cannot live our own lives, think our own thoughts, and go our own way without the restraining tug of law or of convention pulling back on our coat tails. Most of the difficulty in modern life is not caused by our struggle with matter, but with our beliefs and our own thoughts, and with the thoughts of others. The field of man's battle is within his own mind—with his own instincts, his own thoughts, his own feelings. His life is being made constantly more difficult, not only by the multitudinous devices with which he has to work, but even more so by the network of laws and customs with which he has entangled himself.

Herein lies the importance of considerate thought of that tabernacle of clay in which our spirits for the moment abide. The immaterial part of man is the important feature of him, but the most immediate thing in his environment is his physical body. That body should be well-developed, symmetrically formed, wholesome, and free from avoidable defects. Juvenal, the great Roman satirist, urged his countrymen to pray to their gods that they might have sound minds in sound bodies. And that was a majestic prayer for a pagan philosopher. A defective or a diseased body gives a blurred and distorted conception of the realities of life, even as a defective lens gives us a gnarled and twisted image of objects within the range of vision. The body is holy, and we should cherish it, by keeping it free from infection, by attending properly to its nourishment, by eliminating poisons from it, by working it in moderation, and by giving it adequate rest. The mind is keenly sensitive to intolerant conditions within the body. Through an unwholesome physical being the mind can not comprehend clearly, nor can it react efficiently to the mental receptions. Whatever is bad for the body is immoral.

If unwholesome physical health affects the mentality adversely I am certain that morbid emotional states and unsound intellectual attitudes are even more harmful. All of you have seen cripples who were happy, and physical giants who were unhappy and in-

adequate.

Fear, I have no doubt, is more hurtful to our mental and our physical health than all the germs that have been catalogued. Fear plays a bad part in the life of each of us. It dominates many of us in the great philosophies of life—in religion, in politics, in economics, in industry, and in that intimate inner circle called home. Fear is the club too often made use of in rearing children and in dominating adults. It is generally the causative factor in warfare, and fear guides the pen that formulates most of the peace treaties. Children should be taught not to be afraid. Adults should be taught to understand God and not to fear him. Citizens should be taught either to obey fundamental laws, or to abolish them, but not to fear them. It is a sad state when mankind comes to fear his own formulations. Intolerance begets personal unhappiness, and leads to unwholesome mental health. Charity means love, but some things and some people we can not love. But we can tolerate them. Intolerance is, I feel, one of the curses of our age. Too many of us would mould the lives of our neighbors. I believe there is too much moral tension in the world. Physical relaxation is no more important than relief from moral tension. In some individuals the process of relaxation comes about through an alcoholic debauch. Let us not be too condemnatory. I sometimes think all of us at times do too much moral tip-toeing.

Truth, after all, may be largely an individual and a relative matter. The thing that seems right to me may seem wrong to my neighbor. It is tragic to expect too much of a mere mortal; we are made of dust, not of gold.

What, after all, is that summum bonum for which each is lifting high his hands? Material wealth? The dollar has perhaps never before been so influential in human history. Those who have most of them are, I sometimes fear, formulating our college curricula, and controlling the admissions to the seats of higher learning. But money is mobile, and the dollar finally finds lodgement where it is most needed. The wild striving for it ruins much health, mental and physical, and the loss of it causes much unhappiness. Charges equally as grave can be lodged



against the desire to attain eminence—in wealth, in industry, in politics, in society—the craving to stand up above the herd, head and shoulders, as Saul stood up above the host. But, for it all, he went out miserably.

Mental health comes out of right living, and sound mental health makes right living possible. Our lives are too filled with purposeless movement and hurry; we demand no time for deliberation and contemplation, and for opportunity to live with our meditations. If you would know what disappointment and sorrow occupy the breasts of those who hold positions of so-called eminence read Bacon's essay "On High Place." If you would know about the joys of life go to the *Meditations* of Marcus Aurelius. If we would know how properly to estimate character let us read Mark Twain's "Captain Stormfield's Visit to Heaven." In the great heavenly host the outstanding citizen was, I believe, the former blacksmith from East Tennessee.

I am convinced that the mind can be traumatized—wounded—by a harmful thought or a bad experience, even as I believe that the physical body can be injured by an accident. The minds of little children are often irreparably damaged by the terrible tales told by nurses and by others. Most of the great fears that haunt human beings throughout life were lodged in infancy. So-called psychoanalysis is doing much to root out such fears and other morbid mental states.

Modern society interferes too much with instinctive tendencies. There is too much tendency to regard all instinctive behavior as wrong. What is natural cannot be very bad. Practically all statutory laws are antagonistic to natural instincts. For that reason we are all lawless. All great men have been lawless. Too much respect for herd opinion implies

either individual ignorance or cowardice or both.

The physical and mental health of many women is torn down by the bearing and rearing of too many children. If it is sensible and prudent to regulate the number of chickens and pigs and shrubs and flowers that one is to care for, why not also the number of children? They are more important.

Apartment dwelling is having a bad influence on the mental health of many women because of their unwillingness to raise children in such cramped quarters. The home purposely made childless can not be happy, and unhappiness begets ill-health.

Alimentation—that happy faculty of transforming the things of the pantry into bone and flesh and blood—into life—has not become the high art in the South that it should be. Every kitchen should be a shop in which the finest artistry is practiced. As a matter of fact much good raw food is made unfit for human use by bad cooking. The kitchen should be the best equipped room in the house and the dining room the cheerfulness. Man may live without poetry, music and art, but life without good food is intolerable and unwholesome.

Finally, in closing, I must express regret on account of my inability to define that splendid old Roman term—*aequanimitas*. Without some degree of it in our makeup the wear and tear of existence becomes too much for us and we crumple up. I think of it as the ability to view the situation with philosophic calm, whether the neighborhood opinion be with us or against us, as serenity in the midst of confusion, and as unwillingness to be fretted by trivialities. To the individual so constituted God is in His universe and all is well.



## CONGENITAL URINARY OBSTRUCTIONS\*

WM. M. COPPRIDGE, M.D., Durham, N. C.

Congenital urinary obstructions are now recognized to be more common than was formerly believed. The importance of a knowledge of the various forms of these conditions and the symptoms they produce is becoming more apparent. This is especially true as regards the pediatrician and general practitioner, since most of the lesions are of such a serious nature as to result fatally before the patient passes through childhood. Early diagnosis will often result in a cure, and for this reason a broader understanding may lead to the recognition during life of conditions that were formerly found only at autopsy.

Modern urology is recognizing the importance of urinary obstructions in general. Past generations have thought more in terms of kidney lesions. Urologists today are possibly just as interested in the drainage apparatus, namely, the ureters, bladder and urethra. There appears to be no doubt that a great amount of kidney pathology which was formerly supposed to be primarily renal in nature is due to lesions of the lower urinary tract.

Congenital obstructions may occur in the ureter, bladder or urethra. Strictures of the ureter have been observed in the new-born. Cases of congenital narrowing of the ureteral meatus with hydroureter and hydronephrosis above have been reported. The most common site of congenital obstruction is in the posterior urethra in males and at the bladder neck in females. In the male, stricture may occur in any portion of the urethra as well as at the meatus. In the posterior urethra the obstruction usually is caused by valves or folds of mucous membrane. Hinmann and Kutzmann have recently published a thorough review of this subject. They report six cases and collect fifty others from the literature. Young reports twelve cases operated on with good results. Young classified the valvular obstructions in three types, depending upon the attachment of the valves and the type of obstruction produced. The exact

embryological explanation of the formation of the valves is not clear, but most of them are attached to the verumontanum and are supposed to be concerned with some error of development of this stricture. Other forms of obstruction, congenital in nature, have been described. Young reports a case of fibromuscular obstruction at the neck of the bladder. The pathology in this type seems to be an overgrowth of fibrous and muscular tissue with a certain degree of spasticity, which tends to obstruct. The case I have to report, I believe, falls in this class.

The results of any of the above types will depend upon the amount of retention produced and whether or not infection is present. If the retention is great, regurgitation up the ureter occurs; and finally hydroureter and hydronephrosis result. If infection be present, pyelonephritis may occur. The kidney function is very seriously affected, and the end result is usually complete renal destruction.

The symptoms of such conditions vary greatly, depending upon the degree of obstruction and whether or not infection is present. By a study of the cases reported it is found that the symptoms may be very few. There is usually the history of some urinary disturbance from birth. Enuresis is common. Frequent, difficult urination, with pain, may be the chief complaint. A full bladder can usually be demonstrated. Pyuria of varying grades occurs. In the more advanced cases, where the back pressure has begun to cause kidney destruction, the picture becomes that of renal insufficiency, edema, vomiting, anemia, or high blood pressure. Death usually comes with uremia.

The diagnosis cannot be made from the symptoms and physical findings alone. Persistent pyuria, associated with slight urinary symptoms with a constantly full or partially filled bladder, should always make one suspicious of urinary obstruction. A careful physical examination may, in the more advanced cases, show, in addition to the full bladder, the presence of enlarged kidneys. The finding of residual urine is suggestive in

\*Read at the meeting of the Medical Society of the State of North Carolina, at Durham, April 18 19-20, 1927.

cases in which no enlargement of the bladder can be demonstrated. Once the condition is suspected it can be definitely diagnosed by cystoscopy and urography. In very young infants it is now possible to carry on complete urological studies with the cystoscope and ureteral catheter. Simply filling the bladder with 10 per cent sodium iodide solution will usually show regurgitation up the ureters, especially if the case is at all advanced.

Most congenital obstructions are amenable to treatment. The obstruction may be attacked suprapubically through the bladder or through the urethra. Fulguration or excision of the obstructing valves through the urethroscope have been done repeatedly with satisfactory results.

The most important phase of the subject is that of early diagnosis. The result of the treatment depends almost entirely upon the amount of kidney damage. The early incidence in life and the insidious nature, producing as it does such serious damage, emphasize the importance of early recognition.

Case report: Through the courtesy of Dr. B. U. Brooks, I am permitted to report the following case:

Boy 10 years old, was admitted to Watts Hospital January 2, 1922, with nausea and vomiting as the chief complaint. The present illness began about two years previously with an attack of what was diagnosed "kidney trouble," the details of which could not be ascertained. At that time there was some vomiting and weakness, and the patient has not been strong since. He was able to attend school irregularly but at times would have attacks of vomiting swelling of the face and extremities. He has become progressively weaker. The family history showed the father living and well; the mother died two years previously of tuberculosis; otherwise the family history was negative. The patient had had measles, whooping-cough, chickenpox, and influenza in 1918. He had not been seriously ill with any of these diseases. He had been a bed-wetter up until a year before admission but had never complained of any urinary disturbance, no pain, frequency or bleeding.

Physical examination showed a well grown, fairly well nourished boy of ten. He was pale, and there was some suggestion of edema of the face but none of the extremities. He had a nephritic appearance. The tongue was heavily coated, teeth good and tonsils not enlarged. The heart was normal, but the breath sounds were harsh and a few rales heard over the bases posteriorly. At the entrance examination the abdomen was negative for masses or tenderness. The temperature was normal; pulse 100; blood pressure 135/100. Urine showed a heavy cloud of albumin, acid reaction, sp. gr. 1.001; few pus cells, no casts, no red cells, and few epithelial cells. The blood showed 7,800 leukocytes and 2,900,000 red cells with hgb. 58 per cent. Over a two-hour period only a trace of pthalein was eliminated. Several tests showed readings of from 1 to 5 per cent for two hours.

Of course a diagnosis was made of chronic renal insufficiency. In view of the family history of tuberculosis and the chest findings a study for pulmonary tuberculosis was made. The sputum was several times negative; the x-ray report was probable tuberculosis of the right base, but subsequent examinations threw doubt as to there being any active involvement. The feces were negative for ova and parasites. The child was given the usual treatment for chronic nephritis. After several weeks of apparent improvement the edema returned and vomiting occurred. The urinary picture remained about the same, from a trace to a cloud of albumin, few pus cells and never any casts. The pthalein excretion was never more than a trace. The blood urea ran from 90/100 mg. per 100 c.c. There was never any complaint of symptom referable to the bladder or kidneys.

Dr. Brooks asked me to see the case after the child had been in the hospital about two months. I concurred in the diagnosis of chronic nephritis, and we saw the case together several days. It was noticed that the bladder was distended at times but not extremely so. At other times it was not discernible. There appeared to be little indication for



urological study, and the general condition of the patient was not such that it seemed desirable to administer an anesthetic unless cystoscopy was definitely indicated. The child became progressively weaker; vomiting increased; blood pressure arose to 180/110; the edema became marked; convulsions occurred; and the child died on May 5th, four months after admission. The bladder was markedly distended during the last days, and we were unable to pass even a very small catheter or probe into the bladder.

Autopsy revealed a greatly enlarged and hypertrophied bladder, marked hydroureter, and bilateral hydronephrosis, with complete renal destruction. There was no evidence of valves in the urethra nor any stricture. The neck of the bladder was greatly hypertrophied, forming a fibromuscular ring which produced obstruction. Microscopical sec-

tions from this area showed the ring to be composed chiefly of muscle mixed with fibrous tissue. The opening through this ring would admit only the smallest filiform.

In this case the whole picture, until the last week of life, was that of chronic nephritis. Our mistake in diagnosis was due, I believe, to the absence of infection and our inability to constantly demonstrate a distended bladder. There were never more than a few pus cells in the urine, and the case was entirely afebrile after admission.

#### REFERENCES

- Hinmann and Klutzmann: Jour. Urology, Aug., 1925.  
Young and Frontz: Jour. Urology, 1919, III, 289.  
Jordan: Jour. A. M. A., July 26, 1913.  
Bugbee and Wollstein: Jour. Urology, 1923, X, 477.  
Lousley: Ann. Surg., 1914, LX, 733.  
Randall: Ann. Surg., 1921, LXIII, 477.  
Knox and Sprunt: Amer. Jour. Dis. Child., 1912, IV, 137.

## RABIES FROM THE VETERINARIAN'S VIEWPOINT

H. CALVIN REA, B.S., D.V.M., Charlotte, N. C.

Rabies is an acute, infectious and nearly always, if not always, fatal disease to which all mammals, including man, are susceptible. The clinical picture is characterized by a change in disposition, disturbed consciousness, increased nerve irritability and by subsequent symptoms of paralysis.

Even though rabies has been recognized as a separate entity since well beyond the Christian era, in the opinion of the writer there is more ignorance and superstition regarding it today than any other well known disease. The fact that it has been eradicated in Sweden, Denmark and Norway for thirty years and is rapidly increasing in this country is not to our credit.

In 1921 it was found that rabies existed in twenty-nine states and a total of 5,558 dogs' heads were examined, of which 2,699 were positive. There were 168 deaths in man from 1917 to 1921. Of the total, thirty-nine died during and after the Pasteur treatment. Available data also shows that from

1920 to 1923 inclusive there were 131 fatal cases of rabies in the United States and 20,068 people had taken the Pasteur treatment. McCoy, of the U. S. Public Health Service, states that in 1922 the admittedly incomplete enumeration for the year showed a little less than 10,000 persons taking the treatment. In the State of North Carolina in 1920 there were 207 positive cases and 473 patients treated. In 1925 there were 813 positive cases and 1,850 patients treated.

From the above, we can see that rabies is still a disturbing factor throughout the United States, notwithstanding that the end of the first half century of the Pasteurian vaccination is approaching. As in the case of other diseases which science has conquered, a mere fifty years has not been sufficient to bring the public into the realization that means of control and even the disease itself are realities that mankind must face and handle and not merely mythical conceptions of the over-zealous man of science, but it is

therefore refreshing that the foremost nations of the world have arrived at the conclusion that official recommendations in the case of rabies are among their current obligations.

1. Etiology—A filterable virus, the exact nature of which is not definitely known but is generally believed to be a protozoon. When it enters the body, the germ is not carried by the blood stream but travels in nerve tissue to the brain. It is also found in the salivary glands and is excreted in the saliva.

2. Source of Infection—Saliva of infected animals.

3. Mode of Transmission — Inoculation with saliva of infected animals through abrasion of skin or mucus membrane almost always by bites or scratches.

4. Incubation Period—Variable—from ten days to several months, depending to a great extent upon the severity of the wound and the distance from the brain. The average in the dog is about twenty-one days.

5. Period of Communicability—For fifteen days in the dog (not known in man) before the onset of clinical symptoms and throughout the clinical course of the disease. (American Public Health Association.)

6. Methods of Control—The section on hygiene of the League of Nations at its special conference on the control of rabies in Paris last April made a number of significant resolutions. From these the writer excerpts the following:

(a) Preventive vaccination of dogs should be practiced. As many dogs as possible should be vaccinated at the same time, and killed or fixed virus should be used. Dogs should be vaccinated once a year.

(b) The vaccination procedure should be done with care and only by colleges or authorized veterinary sanitarians.

(c) Laws providing for the licensing of vaccinated dogs should be passed and in order that they (the dogs) may be accounted for, they should be inspected by veterinarians from time to time during the four months following the vaccination.

The above recommendations represent the thought of the world's foremost scientists on the question concerned. They epitomize in a few words the measures required to control or even eradicate rabies, but we have reasons to fear that our physicians will not heed them, not because a political question prevented the United States from being represented at this important conference, but because our family physicians for the most part are traditionally indifferent and lamentably uninformed about that grave etiological factor—the mad dog.

If this gentle criticism is presumptuous on our part, it is not without justification, for when in the handling of rabies our duties draw us into consultation with our physicians, we are generally disappointed.

When we are consulted by a person who has been bitten or scratched by a dog (or cat), we advise as follows: Call your family physician at once; have the dog examined and kept under observation by a graduate licensed veterinarian. Unless the animal is at large and cannot be safely captured, we never advise its destruction. In many instances the negri bodies do not develop until rabies has run its course, therefore killing the animal may and often does destroy the evidence.

#### IODIZED SALT

The use of iodized salt was made general on the supposition that its iodine content was too small to have any detrimental effect. This argument and the excellent results obtained by its use in Switzerland were the chief arguments cited in its support. However, Bircher, (1) a Swiss physician, in a recent article contradicts both assertions. He states that hyperthyroidism has increased 300 per cent in Switzerland since the use of iodized salt has become general and he has observed also that small amounts of iodine

administered regularly are more likely to cause iodine poisoning than much larger quantities given periodically. The fact that the incidence of hyperthyroidism has always been very low in Switzerland as compared with the region of the Great Lakes in this country, and the obvious conclusion that the Swiss are much less susceptible to this disease than we, gives this statement even greater weight. —Abuse of Iodine, Especially of Iodized Salt, in the Prevention of Goiter, C. L. Hartsook, M.D., Cleveland Clinic, Cleveland, Ohio. *Annals of Internal Medicine*, July, 1927.

## LESSONS FROM FORTY CASES OF ACUTE MASTOIDITIS IN INFANTS CAUSING DIARRHEA\*

VANCE P. PEERY, M.D., Kinston, N. C.

The subject which I present to you is comparatively new, and the conclusions reached after careful study of our series of cases are simply confirmatory of results obtained and previously published by Dean<sup>1</sup>, Marriott,<sup>2</sup> Alden,<sup>3</sup>, <sup>4</sup> Lyman,<sup>3</sup> Sidbury,<sup>5</sup> and others—with possibly one exception, which will be mentioned later.

The work of the above-mentioned men, along with that of Jeans and Floyd<sup>6</sup>, Renaud,<sup>7</sup> and Hartman<sup>8</sup>—who in 1898 suggested a causal relationship between infection in the ears and infantile diarrhea—served to overcome my timidity in doing an antrotomy on a seriously ill baby, showing what I considered practically no signs referable to the ear or mastoid. I did my first two or three operations with misgivings, and only after Dr. Mangum, our pediatrician, assumed the responsibility. By that time I was convinced and felt justified in assuming a bolder attitude in these cases.

It is now believed that any baby presenting a clinical picture of gastro-intestinal disturbance, with rapid loss of body fluids and inability to replace and hold body fluids by intraperitoneal injection of saline, transfusion, or any other measure instituted to prevent drying out, has a focus of infection somewhere, most probably in the upper respiratory tract. Formerly, and even now in most text-books, one could find little or nothing to justify a positive stand in saying this is a mastoid or sinus infection; and certainly until a few years ago one would have to examine postmortem records to find any striking evidence of mastoid infection as an etiologic factor in ordinary cholera infantum. Just as in a large percentage of cases presenting symptoms of inflammation within the abdomen, reasoned backward from the postmortem findings revealed the symptoms which had been attributed to cramp colic to be due to appendicitis, and the bold doctor

operating early in his next case of so-called inflammation of the bowels, found an acutely inflamed appendix, removed it, and saved his patient; so with these cases which are being reported from time to time by men of unquestioned ability—the cause first suggested by postmortem findings, then a few years ago, the clinical course was so affected and the mortality rate so lowered by operating on mastoids and sinuses in infants, that this distinct advance has been made in pediatrics and oto-laryngology.

This problem of focal infection in infants is not one for the otologist alone. It can only be handled conservatively and sanely by the otologist and the pediatrician in cooperation. The pediatrician it is who gives the word to operate. He knows whether the patient is hydro-labile or can hold fluids. It is he who, after ruling out every other etiological factor except a masked infection from the neck up, calls in the otologist. Even then, unless the otologist has had experience with such cases, operation will in most instances be denied until the pediatrician insists sufficiently to insure postauricular drainage, or the proper treatment for an infected sinus is instituted. In our experience I am permitted to examine all infants admitted, but I never go further than to explain my findings. I await Dr. Mangum's word to operate, and I am satisfied so far that the call comes soon enough from the pediatric service, as we have had only one so-called subperiosteal abscess in two years. That I discovered full blown following scarlet fever, when called in consultation with the family physician. As evidence of a rational attitude toward mastoid infection, aside from the anhydremia cases, in our pediatric service there have been referred to me and operated upon only eight cases of mastoiditis in two years. This is just about what would be expected in a service of its size. These eight cases were following pneumonia, scarlet fever, etc.

The anatomical considerations in this

\*Read before the thirty-second annual meeting of Seaboard Medical Society, at Norfolk, Va., December 8, 1927.



problem are a mastoid antrum about the size of an adult antrum, with its floor separated from the external auditory canal by a very thin partition. The additus ad antrum, however, is smaller; and the epitympanum and additus, being filled at birth with mesodermal tissue not absorbed until after two years, act as a block, so to speak, when infection gains access to the additus. We all know about what to expect when the streptococcus begins its work in a small confined area. The eustachian tube being shorter, its course more horizontal and comparatively larger in early life, permits easy access to the middle ear by infection originating in the sinus or postnasal, nasal, or pharyngeal mucosa. Fifteen of our cases showed sinus infection which demanded treatment to insure recovery—and now we make it a matter of routine in all our mastoid cases, regardless of findings in the nose, to use ephedrine in the nose, followed by 5 per cent argyrol or silvol.

The gross pathology of these forty cases ranged from abundant pus under pressure escaping from the antrum upon opening, to the antrum filled with bloody, stained, inflammatory debris. There need be no cause for confusion on opening an antrum, as the normal always shows a pearly gray lining. Occasionally blood will have gained access from the operative field, but after wiping and mopping out, the normal is easily recognized. Another point I consider worthy of mention is the amount of hemorrhage from the bony cortex. This has been very noticeable in our cases—free bleeding from the bone on removing the periosteum preparatory to making entrance to the mastoid. Of course the culture from the antrum and the microscopical examination of any antrum contents disclosed leave no room for argument.

*Symptoms:* from the otological side. Do not look for text-book descriptions. Disregard pain and tenderness anywhere, although both may be demonstrated. You see a baby as a rule acutely ill, with fever ranging from 101 to 106. Usually there is a peculiar grayish or cyanotic pallor. Examination of the auditory canal demands an electric otoscope with a magnifying lens. I advise making certain that the battery is not weak, as often I have missed minute detail by using a battery slightly run down, yet with

apparently good illumination. Just forget, for this work, that a head mirror and old style ear speculum were ever made. You will find a drum varying in appearance from the typical red bulging drum, or one covered with the often-noted coating of whitish epithelial debris, to a drum which shows very slight change. In some of our worst cases the drum has merely appeared lustreless, with some injection of Schrapnel's membrane. You may incise this drum and it will give you the sensation of pushing your knife through extremely dry paper. Oftentimes the space behind the incision is dry, not even serum escaping—due to the fact that your infection is confined behind the barrier of swollen mesodermal tissue in the epitympanum or additus. Examining closely with proper illumination in the posterior superior quadrant of the external auditory canal you will find a slight mound, or a sagging downward, sometimes even a pronounced protuberance, of the tissues in this locality, like we see in an infection of the external auditory canal in beginning furunculosis. This is what Sidbury and others term the pathognomonic sign, and this same sign we all recall has been given to us for years as a sign of mastoiditis in all cases. This is to my mind the only text-book symptom in these cases. I rely more on this downward sag and injection at this locality than anything else. This sign is due to the following facts, as explained by Drs. Alden and Lyman."

"In infants there are two anatomical factors which help to make this particular symptom of more than ordinary significance. At birth, the antrum, attic, and upper portion of the middle ear are filled with soft mesodermal tissue, which, as the child grows, becomes gradually absorbed and thinned out. But in early child life there is so much of this embryonic mucosa remaining in the attic and antrum that it requires only the slightest irritation in this region to cause swelling enough to entirely separate these cavities from the middle ear. This is why suppuration in an infant's mastoid antrum cannot be adequately drained by the ordinary incision through the tympanic membrane.

"The second anatomical consideration which has a definite bearing upon this condition is the fact that in infants the tympanic

annulus in its superior portion is incomplete. Therefore any accumulation of fluid in the antrum will show as a bulge downward of the membranous floor of the antrum or upper wall of the external auditory canal. An incision in order to drain these accumulations must include not only the upper portion of the tympanic membrane, but the membranous floor of the mastoid antrum as well."

The other symptoms of these types of cases are for the pediatrician, and it is on his side that we see the most striking features of the complete picture, up to operation, such as severe gastro-intestinal disturbance, inability to retain fluids, and acidosis. If the baby has the infection in his antrum or sinuses or both, the pediatrician can feed him anything from the condensed milk which several years enjoyed quite a lay popularity, to lactic acid milk and karo; he can give him saline, blood, or any kind of fluids as often as he pleases, by mouth, under the skin, intraperitoneally, or in the veins; but the baby will continue ill until that confined infection and suppurating process is drained. After the otologist steps in and accomplishes adequate drainage the problem is much simpler for the pediatrician—providing the baby has not lost too much ground while being barraged with different formulas. Sometimes even now they have to survive the added insults of repeated doses of castor oil and calomel. I have had men appear almost horrified at my being radical enough to do what is to my mind a harmless antrotomy, while they amaze me by giving an already dehydrated infant with diarrhea repeated doses of castor oil, calomel, and even epsom salts, from day to day. Do not misunderstand me—I am not condemning castor oil, calomel, etc., when indicated at the onset of acute gastro-intestinal upsets. It is *repeated* doses in a *dry* baby which offend my judgment. There is ample evidence published during the last four years to substantiate our experience—mostly by men I have already mentioned—in the form of negative postmortem findings in the gastro-intestinal tract, and positive pathology in the mastoids and sinuses, as well as the most remarkable clinical improvement in these babies after operation (with an almost complete about-face in the course of clinical symptoms), showing the relief from toxic absorption. Purges, repeated, drain out fluids

needed to combat toxins coming from the mastoid and sinus empyema. Surgery removes the offending agents we formerly thought were in the intestinal tract.

Dr. Marriott<sup>10</sup> says: "Three or four years ago when I first reported a series of cases of gastro-intestinal disturbances resulting from mastoid antrum infection, there was a general belief that we were dealing with an isolated and unusual epidemic and that similar cases did not occur elsewhere. It is interesting to know that similar cases occur in North Carolina, and I am thoroughly convinced that they are just as numerous in every other part of the country but have not been recognized. The symptoms of the cases described by Dr. Sidbury are characteristic, and should in every instance lead to careful consideration of mastoid infection.

"During recent months we have learned that severe symptoms need not necessarily be present in order to make the diagnosis of antrum infection, and that such infections are responsible for conditions other than severe diarrhea, dehydration and vomiting. We have recently had in the St. Louis Children's Hospital a group of babies who were not doing well. They had little or no temperature—no severe diarrhea—and only occasional vomiting, but they failed to thrive, despite repeated transfusions and the administration of a diet adequate in all respects. All of these had some middle ear involvement, and all an increase in leucocyte count. Operation upon the mastoid antrum resulted in finding pus in every case and was followed by an almost immediate disappearance of the symptoms and a beginning gain in weight.

"It should be emphasized that the simple operation of post-auricular drainage is not a serious one. It can be done in about five minutes under local anesthesia. There is usually no post-operative shock and, so far as our observations are concerned, no mortality due to the operation itself. Occasionally one may make the mistake of opening a normal mastoid antrum, but that will do no harm, whereas failure to operate upon infected antra may lead to high mortality. The most convincing proof of the existence of these mastoid infections is obtained at the autopsy table. Any one who does complete autopsies on his cases of gastro-intestinal and nutritional disturbances cannot fail

to become convinced of the existence of infection of the type described, nor can one who sees excellent results following operation fail to be convinced of the advantages of early operation.

"It cannot be too frequently stated, when a baby has been properly fed and has been doing well, and then develops vomiting, severe diarrhea, and ceases gaining in weight, that infection must be present. The infection is not necessarily in the ears, but is more likely to be there than in almost any other place."

X-ray we do not rely upon, although we have had over half our cases rayed. The reports have not given us much to depend upon. However, we are not yet willing to forego this procedure in reaching a final conclusion before operating.

The consensus of opinion is that a simple antrotomy alone should be done. We are not willing to agree wholly with that. We have had five cases in babies from six to ten months old in which we found well developed mastoid cells revealing pathology aside from that found in the antrum. This idea was suggested while doing a bilateral mastoid complicating pneumonia, on a baby nine months old. The chisel uncovered two large cells filled with pus, in the root of the zygoma. Since then, we remove the cortex of bone covering the mastoid in all cases after opening the antrum. This routine procedure has disclosed four additional cases. I do not believe this additional surgery increases the risk in any way whatever. At least, close observation in our cases has upheld us in this conclusion.

The operation we do is preceded half an hour before operation by a dose of morphine of about 1/50 (according to age) with atropine. We employ local anesthesia, 1/2 per cent novocaine, using about 1/2 ounce in injection of skin, and attempt to get under the periosteum with deep injections. We find that the babies do not offer protest if we are careful, painstaking, and gentle as possible while operating. Incision is started about 1/8 inch behind the junction of the skin with the auricle, about 1/2 inch above the site of the antrum extending about 1/4 inch below the antrum, directed slightly backward to avoid a possible superficial exit of the facial nerve. The periosteum is elevated, a retrac-

tor is placed, and the perforated spaces are found just slightly above and back of the spine of Henle. We enter here with a burr, then with a chisel we remove the cortex from above, behind, and below, toward the antrum. This requires care and some skill to avoid uncovering the dura above and the lateral sinus below. A curette is used to feel out softened and necrosed bone. The additus is felt for and gently probed. A drain of iodoform gauze is placed loosely, and we place one suture above for approximation only, leaving free drainage below. Time required for the operation bilateral, from 15 to 25 minutes, not counting waiting a few minutes on local anesthetic. We dress these wounds each day until drain comes out, usually from the second to the fourth day. Ear drums are inspected daily, and if the middle ear shows involvement that is kept open. The pediatric service is responsible for the case except for our dressings after operation. The desperately ill babies generally get fluids several times, post-operatively, saline or transfusion or both.

The ages of the babies in our series of cases ranged from five months to two years, with an average age of about nine months. The white blood count was from 8,000 to 42,000, giving an average of 18,600. The red blood count will usually be somewhat lowered, and from low to high grade anemia is nearly always present, due to hemolysis from toxic absorption.

*Bacteriology.* — The streptococcus, long chain or hemolyticus, is the principal offending organism. In only 28 of our cases were we able to obtain growth; but I am satisfied that should be charged to technic, as since we have recently been paying more attention, seeing that swab is taken immediately to the laboratory when transferred to the culture, our percentage of failure to obtain growth has diminished. Eighteen cultures showed streptococcus hemolyticus, 4 showed streptococcus hemolyticus with pneumococcus and staphylococcus aureus, 3 pneumococcus alone, 1 staphylococcus albus and aureus, 2 pneumococcus and staphylococcus albus and aureus. Twelve cases showed no growth.

Ten of the forty died, which gives an apparently high mortality rate—25 per cent—on the face of it. But considering the extremely grave condition of some of these



babies when they came to us, we, knowing the situations in our series, do not apologize to ourselves for it.

#### CONCLUSIONS

1. There is a definite clinical picture in infants—vomiting, diarrhea, hydrolability, fever, leucocytosis—which is not corrected by diet or other measures, except locating and treating the local focus in the sinus or mastoids.

2. The oto-rhinologist and the pediatrician must co-operate and share this problem jointly.

3. Our attitude toward mastoiditis and sinusitis in infants has undergone a complete change. We expect and have fewer cases of subperiosteal abscess and intracranial complications by reason of our experience in the gastro-intestinal cases.

4. We believe this type of case so prevalent that any gastro-intestinal case simulating cholera infantum should be studied carefully from the oto-rhinologist's standpoint. The operative procedure should be instituted at the request of the pediatric service.

5. We believe that a search for mastoid cells should be made after opening the antrum, because toxins from a focus in one or more early developed cells are just as much a factor in the picture as the absorption from the antrum. The additional surgery, in our experience, has provoked no untoward symptoms.

6. We do not feel that the operation, *per se*, has any mortality, excluding accidents. We do not think that any one seeing these cases would blame one of the ten deaths

upon the operation.

7. My conversion from an originally timid and most conservative attitude towards this question to my present attitude, after my experience with this series of forty cases, makes me feel very grateful to Dr. Mangum, and especially to Dr. Sidbury, of Wilmington, who saw several of these cases with us, and whose opinion was the deciding factor in those cases having the benefit of postauricular drainage.

#### BIBLIOGRAPHY

1. Dean, L. W.: "Acute Otitis in Infants." *Archives of Otolaryngology*, September, 1927, Vol. 6, pp. 201-212.
2. Marriott, McKim: "Observations Concerning the Nature of Nutritional Disturbances." Read before the American Pediatric Society, Washington, D. C., May 5, 1925.
3. Alden, Arthur M., and Lyman, Harry W.: "Gastro-Intestinal Disturbances in Infants as a Result of Obscure Infection in the Mastoid." *Laryngoscope*, August, 1925.
4. Alden, Arthur M.: "Mastoid Infections in Infants." *Archives of Otolaryngology*, June, 1927, Vol. 5, pages 39-42.
5. Sidbury, J. Buren: "Mastoiditis in Infants. Report of Forty Operated Cases." *Southern Medical Journal*, September, 1927, pages 713-718.
6. Jeans, P. C., and Floyd, M. L.: "Upper Respiratory Infections as a Cause of Cholera Infantum." *J. A. M. A.*, Vol. 87:220-222, July 24, 1926.
7. Renaud, Maurice: "Bulletins et Memoires de la Societe Medicale des Hospitiaux Paris." Vol. XLV, pages 1326-2352-1384.
8. Hartman: "Du Einwirkung der Otitis Media de Sauglinge auf den Vernaunng Sapparrat." *Zeitschrift fur Ohrenheilkunde*, Vol. XXXIV.
9. Alden, Arthur M., and Lyman, Harry W.: "Gastro-Intestinal Disturbances in Infants as a Result of Obscure Infection in the Mastoid." *Laryngoscope*, August, 1925.
10. Marriott, McKim: Discussion of Dr. Sidbury's paper, "Mastoiditis in Infants. Report of Forty Operated Cases." *Southern Medical Journal*, pages 713-718; Vol. XX, September, 1927.

#### THYMIC DEATH

To our minds the existence of thymic death as a distinct entity is sufficiently proved. Our observations lead us to favor the mechanical theory and to emphasize the importance of nerve compression. This, in our judgment, can explain not only sudden death from asphyxia, but also syncope as due to a cardio-inhibitory mechanism, without invoking the more or less hypothetical internal secretion of the thymus, the existence of which, however, as we have indicated before, cannot be absolutely denied. The integrity of the adrenals in our cases demon-

strates the occurrence of pure thymic death without intervention of these glands, however frequent may be the occurrence of mixed cases. Despite the contradictory tenor of the recorded data, we believe that the thymus has normally a limited weight and that the volume of the organ diminishes after puberty. We regard as pathologic any gland weighing more than 15 grams. We ascribe a great deal of importance to histological evidence of thymic functional activity in the diagnosis of thymic death.—Thymic Death, E. Bonilla, Madrid, *Endocrinology*, Sept.-Oct., 1927.

## ACUTE APPENDICULAR OBSTRUCTION\*

W. P. BIGGART, M.D., Charlotte, N. C.

In a paper entitled, "Acute Infections of the Lower Abdomen," the July number of *Surgery, Gynecology and Obstetrics*, Mr. David P. D. Wilkie, professor of Surgery at University of Edinburgh, stressed the fact that there are two widely different types of appendicular diseases.

The first he calls *acute appendicitis* and describes thus: "An acute infection of the appendix is of common occurrence and gives rise to symptoms constitutional in type such as might be anticipated in a lesion primarily infective—thus malaise, loss of appetite, rise of temperature and pulse rate, coated tongue, epigastric discomfort, often amounting to pain, sometimes vomiting and later some rigidity and tenderness in the right iliac fossa. The milder degrees of such diseases must often come and go without the physician being called, either for diagnosis or treatment. Progressive inflammation may result, however, and when an early diagnosis is made, prompt operative interference is the wisest course."

The second he calls, *acute appendicular obstruction*, and describes as follows: "For this disease a preceding attack of inflammation is usually responsible. A stenosis near the proximal end of the appendix has compromised the free ingress and egress of fecal matter. A portion of retained fecal content hardens to form a concretion, and then at some time, usually without warning, the peristaltic action of the appendix drives the concretion into the narrow stenosed area and there impacts it. The appendix is now completely obstructed, with what results? This question can be answered most simply by reference to animal experiment. If one ligates the appendix of a rabbit at its proximal end, leaving the meso-appendix with blood supply intact, one finds that the sequel depends entirely on the contents of the appendix at the time of the obstruction. If the appendix was empty, mucocoele develops with no apparent disturbance of the animal's health. If a

small amount of the fecal matter was contained within the appendix the latter becomes distended with pus and empyema of the appendix results. If a considerable amount of fecal matter is pressed from the cecum into the appendix before the ligature is applied, the animal is always dead within 24 hours from perforated gangrenous appendix."

"*Clinical picture in acute appendicular obstruction.*—The patient is suddenly seized with acute cramp-like pains in the epigastric region just above the umbilicus, and vomits. The pain gradually subsides but returns in spasms, usually with repeated vomiting. For the first 6 to 8 hours there may be no rise of temperature, even though at this time the appendix may be well on the way to gangrene. The patient usually looks ill and realizes that something is seriously amiss in his abdomen. There is almost always some tenderness and rigidity in the right lower quadrant."

The two cases herein reported are very similar to the latter condition described above and more especially from a pathological viewpoint. They become extremely interesting when one considers the mild objective symptoms and physical signs as compared with the severity of the pathology found at operation.

Case 1. White woman, aged 20, first seen June 20, 1926. Family and past history negative except for the past two or three years patient has had mild attacks of abdominal pain. These attacks were usually accompanied by nausea which was sometimes severe enough to cause vomiting. She attributed the attacks to biliousness, as they always passed within a few days following thorough purgation. Married for 15 months, no children. The first day of her last menstruation was January 6, 1926. She has been in fair health during this time and has continued her work as a stenographer; although for the past month she has had a tendency to attacks of faintness.

Present Illness: Patient went to work

\*Read before the Mecklenburg County Society on September 20, 1927.

as usual, although she felt somewhat weak. About eleven o'clock she fainted and fell from the stool upon which she was sitting. She soon recovered, however, and was taken home. She went to bed and felt fairly comfortable till about twelve o'clock when she was suddenly seized with severe cramps in epigastric region. Later the pain became more generalized and more severe just below umbilicus in center of abdomen. She vomited twice but felt no relief. I saw her about one p. m. She seemed to be in excruciating pain but there were no other symptoms or signs to cause immediate alarm. Her temperature and pulse were normal, abdomen somewhat tender generally. No rigidity could be detected. One-fourth grain of morphine was administered and the patient advised to inform me of her condition within three hours. Accordingly I saw her at five and eight and gave her one-fourth grain of morphine at each visit. There were no changes in her symptoms and the morphine had seemed to afford no relief. At this time I became suspicious that the patient was really not suffering as much as she would have me or her family believe, so I gave her a third fourth of morphine within seven hours in an effort to narcotize her. Called me again at seven the next morning, the patient informed me that she had not slept and that since five she had been in as much pain as ever. A consultant was then called but nothing definite could be decided. However, she was advised to enter the hospital where her condition could be studied more thoroughly. At this time her temperature was still normal and pulse around ninety, but respirations were rather rapid. Abdomen was very tender generally, but no localization had taken place. There was no more rigidity than would have been expected from pain and tenderness.

Upon admission to the hospital at 5 p. m. her temperature was 99  $\frac{2}{5}$ , pulse 90, respirations 24. The blood showed white cells 19,400; red cells 4,416,000. Urine (catheterized specimen) showed a trace of albumin, 300 pus cells to field; acetone and diacetic acid strongly posi-

tive.

The patient was so anxious that abortion be prevented if possible that two other consultants were requested to see her. Nothing definite as to the exact nature of the pathology could be decided upon because of the pregnancy and history of fall from stool and also marked amount of pus in the urine. The temperature and pulse were mounting rapidly now and at 9 p. m. her temperature was 102, pulse 110, and the abdomen was definitely rigid, most marked in the lower central portion. Immediate operation was decided upon with the provisional diagnosis, acute appendicitis.

The abdominal cavity was found to be filled with a brownish fluid. The appendix was rather firmly adherent to the posterior abdominal wall and was almost in the center of the abdomen just above the brim of the true pelvis. About one-half inch from base the lumen was completely obstructed by a concretion, and the organ was gangrenous to the tip. There was a large perforation at the juncture of the normal and the gangrenous tissue at the proximal end of the concretion from which the contents of the cecum poured out freely. Whether this perforation was spontaneous or caused by manipulations necessary to deliver the appendix, I am not able to say, but I am inclined to believe it due to the latter.

After operation the patient was placed in the semi-erect position and one-fourth grain of morphine was given hypodermatically every three hours in an attempt to prevent the spread of peritonitis and to prevent abortion if possible. The latter objective was not realized, however, and the patient was delivered of a 5½ months fetus the next morning. The patient had a very stormy time for the first week but was discharged from the hospital on the fourteenth day with a moderate amount of discharge still issuing from wound.

Case 2. White woman, aged 26, first seen February 27, 1927. Family history negative. Past history—Four years ago she had an attack of abdominal pain very similar to the present, except it was not nearly so severe and



subsided completely following a hypodermic injection. She continued to have mild attacks and indigestion and was operated upon shortly afterwards. Doesn't know what was done at operation. Was told that she had some gall bladder trouble. She had no further attacks until the past year. During this time she has had several mild attacks of abdominal pain and indigestion. She has lost considerable weight during the last two or three months.

Has been married three years and has one child two years old. Menstruation regular but somewhat painful and prolonged. Has headache continuously.

Present Illness: About midnight patient awoke with severe pains in abdomen. She vomited several times, but the pain became severe all the time. I saw her about two hours later. Patient was in excruciating pain but her temperature and pulse were normal. Her abdomen was tender generally but no rigidity was detected. A scar rather high in right rectus area was noted. I had no fear in giving the patient  $\frac{1}{4}$  grain of morphine for relief. It seemed to afford none, however, and the same dose was repeated at the end of an hour. She complained so with pain that I was unable to leave, though at a loss for a diagnosis, since at repeated intervals her pulse and temperature were normal and the abdominal signs negative except for slight tenderness.

At five o'clock, however, her temperature was 99, and pulse 90. Also at this time I could detect slight rigidity in lower right quadrant. I advised her to go into the hospital immediately, as I was suspicious of acute appendicitis. Consultation was requested and two other physicians saw her shortly after admission to the hospital. At this time, 6 a. m., her temperature was 99, pulse 96 and abdomen was not as rigid as it had been at home, due, I think, to the morphine. We decided at the consultation to observe her for a few hours, during which time a blood count and urinalysis were made. The blood showed 18,120 leucocytes; the urine (catheterized specimen) showed a faint trace of

albumin, 75 pus cells to field, otherwise negative.

At noon her temperature was 99  $2/5$ , pulse 90; at 4 p. m. her temperature was 100  $4/5$  and pulse 100. The abdomen was definitely rigid in right lower quadrant.

She was now taken to the operating room and the appendix was found well walled off by adhesions. Upon breaking these up about an ounce of plastic material exuded from the site of the appendix. No pus was found. The appendix was obstructed near its base by a concretion and was gangrenous in all that portion distal to concretion. The appendix was removed, its bed sponged clean, and the abdomen closed without drainage.

While examining the appendix after its removal small bubbles of gas were seen escaping from a pin-point perforation, about the mid-portion of the appendix. I then felt considerable concern because I did not leave a drain, but the patient made an uneventful recovery and was discharged in fair condition on the ninth day.

#### CONCLUSIONS

1. These two cases serve to show that, although the most common acute abdominal condition encountered by the surgeon, appendicitis is not always so easily diagnosed, and also that there is a distinct type of appendiceal disease that does not fit into the classical description of pain, nausea and vomiting, elevation of temperature, pulse rate, abdominal tenderness and rigidity. These symptoms may appear in the order named, but the time of appearance and the severity are markedly out of proportion to the severity of the pathologic process.

If one waits for the development of symptoms to the degree to which we would in a case of simple inflammation of the appendix, he will find at operation, much to his embarrassment, that his patient is in an extremely dangerous condition and that, too often, all the resources of modern surgery are not sufficient to save the patient's life.

2. Case 1 should impress upon us that the pain from an inflamed appendix is felt at the site the appendix happens to be located,

which is not always in the lower right quadrant. In this case the appendix was adherent to the posterior abdominal wall in the middle of the abdomen just above the brim of the true pelvis.

3. Finally, I think in this type of case we

are dealing with a pain caused by pressure. There is a rapid formation of gas and pus which is pent up in the appendix with no means of escape other than ultimate gangrene and rupture of the appendix; therefore morphine does not afford much relief.

#### WE ARE STRONG FOR PROHIBITION

By Arthur L. Hardy

We are tender with the burglar that invades the private home,  
Or blows a bank to filch therefrom its precious hoard of gold,  
Or the robber who to gain some pelf blackjacks us on the dome,  
Or the parson gav who runs away with a sister of his fold;  
We discuss these things with charity and much of erudition;  
But alcohol—don't mention it—*we're strong for prohibition.*

We weep for any wild female who snuffs her husband's lights  
With twenty tons of dynamite or a nifty gatling gun,  
We're patient with the damsel who devotes recurring nights  
To parties mad and glamorous until the night is done;  
We discuss these things with charity and much of erudition;  
But wine and beer—that's different—*we're strong for prohibition.*

We can not bear the pain and toil of the felon in the pen,  
The electric chair makes shivers run the whole length of our spine,  
We're generous with those who swap their wives with other men,  
The Country's grafters make us smile—we rather like their line;  
We deal with them with charity and much of erudition,  
These ills we bear most patiently—but *we're wild for prohibition.*

We can overlook the nonchalant irreverence of youth,  
We can wade through tons of "litreachure" that would make a jackass blush;  
We call the one a bold, sincere and noble quest for truth,  
We name the other Art and thrill to feed upon the mush;  
We ponder them with charity and weighty erudition,  
But merely mention brandy—*we are wild for prohibition.*

It may make the great men of the past a bunch of sodden wets,  
Grandmothers who make cordial or distill a little wine  
May appear as common criminals—the kind that God forgets,  
And a felon He who filled the cup to prove Himself divine;  
But away with Him! away with them! and all their

damned tradition!

We have no patience with it; *we would die for prohibition.*—Columbus (Ga.) *Enquirer-Sun*.

#### OUR REGRETS, MRS. HALL; WE CUT A NOSE ON ONE O' THE DURN THINGS ONCE

Mrs. E. I. Hall got her left hand badly wounded Monday morning by a broken fruit jar.—Potters Hill News, Duplin Record via Greensboro News.

#### IODINE IN GOITER

A study is offered of personal observations and some of the pertinent literature. The following conclusions are reached:

1. Iodine will prevent simple goiter of childhood and will cure the disorder in a large per cent of the cases. The children receiving iodine will probably not develop adult goiter.

2. Iodine is of value, combined with thyroid substance, in the treatment of uncomplicated colloid goiter, but its administration should be most carefully observed.

3. The dose of iodine, when used medicinally, should not exceed 10 mgm. per day, and this amount should not be given for over a month without intermission. For continuous administration, one mgm. per day is ample.

4. Iodine is dangerous and should not be given to persons with adenomatous or long-standing colloid goiters.

5. Iodine should not be given to persons with Graves' disease or hyperthyroidism except immediately preceding and following operation.

6. In all cases where mild hyperthyroidism is suspected, foci of infection and other diseases should be searched for and treated before the patient is subjected to operation.—The Field of Usefulness of Iodine in Goiter. A. F. Jennings, M.D., and S. W. Wallace, M.D., *Endocrinology*, Sept.-Oct., 1927.

# SOUTHERN MEDICINE AND SURGERY

*Editor*

JAMES M. NORTINGTON

## Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	<i>Human Behavior</i>
FRANK HOWARD RICHARDSON, M.D.	Black Mountain, N. C.	<i>Pediatrics</i>
W. M. ROBEY, D.D.S.	Charlotte, N. C.	<i>Dentistry</i>
J. P. MATHESON, M.D.	Charlotte, N. C.	<i>Diseases of the Eye, Ear, Nose and Throat</i>
H. L. SLOAN, M.D.		
C. N. PEELER, M.D.		
F. E. MOTLEY, M.D.		
J. L. MILLER, M.D.	Gastonia, N. C.	<i>Orthopedic Surgery</i>
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	<i>Urology</i>
JOHN D. MACRAE, M.D.	Asheville, N. C.	<i>Radiology</i>
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	<i>Dermatology</i>
PAUL H. RINGER, M.D.	Asheville, N. C.	<i>Internal Medicine</i>
GEO. H. BUNCH, M.D.	Columbia, S. C.	<i>Surgery</i>
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	<i>Therapeutics</i>
HENRY J. LANGSTON, M.D.	Danville, Va.	<i>Obstetrics</i>
CHAS. R. ROBINS, M.D.	Richmond, Va.	<i>Gynecology</i>
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	<i>Neurology</i>

## OUR READERS' PREFERENCES AND OPINIONS

We have no greater fondness than our readers for answering a list of questions put to us by some stranger who wants to know the opinions of those questioned as to who was the greatest soldier or musician, which cigarette will make of you a Caruso and which a harpist, or the moral effect of wearing short skirts or going without socks. The *questionnaire* has acquired a well-deserved unpopularity. For that reason, and the additional one that we are more facile in English, we call our series of questions by the perfectly good English name, *questionary*. Moreover, we believe the ends sought in this case will justify the means.

To this series sent out in November to a fair cross section of our readers, there have come in 150 detailed replies. From these replies it seems plain that much of value may be learned.

Articles generally preferred run something like this: personal experiences with everyday diseases—55; surgery, general and special, with emphasis on minor surgery and diagnosis—40; medical—7; general—5; pediatric—10; common—12; pregnancy and labor—15; skin—5; public health—5; x-ray—5; pel-

lagra—5; brief with resume—5. Much interest is shown in anaphylaxis, gastric hemorrhage, tuberculous arthritis, eclampsia, the common cold, practical laboratory methods and sterility. There are many requests for "new" matter.

Seventy say they like to receive reprints, while 47 do not care for them, and the others are indifferent. A few customarily send cards requesting reprints of articles in which they are interested.

It was thought that something of value might be learned by asking about subjects which especially concerned the readers at this time. The answers to such a question may be roughly grouped: commonly encountered—30; eye, ear, nose and throat—13; obstetrics and gynecology—10. Noticeable are the requests for articles on advances and discoveries, acne, exposures, medical history, vaccine treatment, pellagra, common colds, acute diseases and tuberculosis.

Our own notion that case reports teach more than any other form of medical literature is evidently shared by most of our readers. More than two-thirds set great store by them; with six they do not find favor; others are vague. Excellent suggestions are made that succeeding dates should not be



given but, instead, the number of hours, days, or weeks "afterward;" and that no negative evidence should be introduced.

Many a time does an essayist wonder about the influence of illustrations. Surprisingly this is a subject on which very sharp division was shown, many making their replies very emphatic indeed. Ninety-eight voted "yes," 36 "no," the rest indifferent, or qualified.

The increasing use of the metric system in nearly all lines of work, and expressions which had come to our ears from doctors, caused opinions on this subject to be inquired for. Seventy-five definitely prefer that, when metric system weights or measures are given, the English equivalent follow immediately in parentheses. Twenty-five prefer the metric exclusively and a few want to have nothing to do with "the French system." It is noticeable that a great number of those who habitually use and think in the metric system recognize the fact that many others do not, and regard it as important that these latter be served by using c.c.'s and grams with their English equivalents.

Forty-nine expressed interest in rare or unusual diseases, while 61 expressed themselves against. It seems though that some explanation is required. The expressions indicate that there is acute and general interest in the rare appearance of diseases of an infectious nature which may become prevalent, and those which are amenable to treatment; but very little interest in freakish and monstrous things, accounts of which teach nothing useful.

The great majority of those expressing themselves object most to text-book articles; a number think poorly prepared articles based on poorly worked up cases most to be avoided; others vigorously condemn those in which there is too obvious an effort at self-advertisement, "experiences from 2,000 consecutive cases," etc. Objection is made to the ultrascientific, technical, rare and the philosophical. Welcoming addresses do not find favor in the eyes of one respondent; and another thinks discussions of medical ethics not worth publishing—whether because we are already properly imbued with ethical ideas, or hopelessly unethical, he does not say. At least one thinks two-thirds of all

are not worth printing; another 90 per cent.

Fifty-eight promise to send in news items, while many say local secretaries should attend to this regularly.

The comments under the request for suggestions for improvement of the journal are gratifyingly complimentary especially as regards our departments and editorial policy. The suggestions are definite and most of them are being adopted. Many agree with us that we should have more case reports and more articles built around case reports. Request is made for more and better illustrations and for *detailed* descriptions of new methods. There is a general demand for "no negative reports." It is recommended that programs for medical societies be arranged after a definite plan and not left to fill themselves out after a haphazard fashion. More symposia would be welcomed by some. A few express a preference for the contributions of famous authors. Good bibliographies appeal to many.

We hope all of our readers will help us toward the development of this idea: "Most doctors have pet subjects on which they have put a great deal of time. Articles from these men on their 'pets' should be valuable." Also the idea that we should have more on the achievements of our own medical men now dead.

"If progress is to be made," says one thinker, "editors should insist that something new must be put forward before an article is accepted for publication. If tabulated summaries and conclusions were insisted upon at the end of every article, with a brief review of the evidence, another advance would be made. Writing and saying nothing new is worse than writing nothing."

There is a request for articles on heart murmurs and incompatibilities of commonly used drugs.

At least one good doctor thinks "the majority of the physicians who will take your journal are above the average." We hope he is right, and that we can make better-than-average men out of the average ones who will give us a chance.

Don't skip this: "Accept no articles based on *opinion* and not on *data*. There is too much of 'I believe' or 'in my experience,' and too little of 'from the above it may be con-

cluded.'” From the same source comes: “Why not have a Department of Public Health?” We appreciate the suggestion so much that we are asking him to conduct such a department.

A former secretary of a large medical society suggests that county and district societies have stenographers take discussions, these to be submitted for revision, and then sent in to the journal for publication. In his society this plan developed great interest with increased attendance and obtained participation of many good men who would not have otherwise taken part.

Quoting a distant doctor whom we hope to know better: “Continue the department editorials but keep them of a general nature so they will be worth while to the general practitioners. There are journals for the specialists which deal with experimental and research problems in particulars fields. *Southern Medicine and Surgery* is sound, practicable and instructive to everybody in everyday work.”

One who follows that course himself tells us to keep on calling a spade a spade and a fake a fake, no matter how big the spade or eminent the fake. We are grateful to the gentleman who says, in his kindly enthusiasm, “Couldn’t be better at present.” That makes us content to keep on working to make it better. And the doctor who writes, “Every doctor in the Carolinas and Virginia should read it”, is a man after our own heart.

A friend of long standing says case reports should be published in type as large as that used for formal articles. He’s right. Why didn’t he say so before? Don’t wait to be questioned. Make your criticisms, suggestions and recommendations as they occur to you. We published case reports after the fashion which we found in use by practically all journals. Being new at it, there was a feeling of hesitancy about making innovations, though the idea came to mind several times. Since getting some one to back us up, as you will note, the change has been made.

The objection to “bromidic introductions and perorations” is heartily seconded. It is hard to improve on the old formula for writing or speaking: “Have something to say; say it; stop.”

A surgeon asks that we get the family doctors to write more. Gladly! if he will tell us

how. They are the very folks this journal wants to hear from, and will keep on working *on* and *for*. He also wants bad results reported along with good. Some months ago we carried an editorial on this subject, citing in admiration an article by a surgeon of Portland, Oregon, in which he frankly narrated a number of operations he had done on mistaken diagnoses, and a number of instances in which patients had been fortunate in declining his advice that immediate operation be done. We urge emulation of this example in all lines of practice.

Recommendation is made that the journal be placed in all the public libraries of North Carolina. We are in favor of it and hope to hear further about ways and means.

We would like to be reviewed by the *Journal of the American Medical Association*, in accordance with one suggestion. Soon after entering medical journalism we complied, in our own opinion and in that of one of the most intelligent doctors in Charlotte, with all their requirements, as expressed in correspondence between this journal and the *Journal of the American Medical Association*; but, once we had met all stated requirements, the powers that be in Chicago declined to take any further notice of us. Repeated letters were ignored over a period of two months and then answered in an entirely disingenuous manner. To those interested in consistency it is suggested (1) that readers of this journal scan the advertising carried by a great number of the most powerful independent journals which are regularly reviewed by the *Journal of the American Medical Association*, and (2) that a comparison be made between the whole contents of *Southern Medicine and Surgery* and the general run of state society owned medical journals, which are also regularly reviewed.

With the doctor who writes that there are too many medical journals we are in entire accord; but we don’t know how to reduce the number except by suicide, which measure we view with decided disfavor.

Specific recommendations as to discussion, editorially or otherwise, of certain disease conditions will be referred, in most instances, to department editors.

One of the responses to the request for suggestions for ways of improving the journal reads: “why paint the lily?” The answer is

passed on to our readers for decision as to whether it is cheerful banter, irony, praise or sarcasm. Our own feeling has been very much that of Trader Horn about the miner who died in Africa, and while being preserved in a cask of alcohol awaiting a ship for Europe, was sent to America as a gorilla. The whimsical old trader recounts that he thought several times about writing about his mistake, but America was a long way off, and it was lots of trouble to write a letter, so he decided to let him be a gorilla.

Our readers have responded to our questions in a way to make us most appreciative of them. The answers show interest, thoughtfulness, and willingness to express preferences. Just so far as is possible this journal will supply information and comment to meet the needs and wishes of its readers.

Many changes have been made already because of ideas suggested; careful readers will note more from time to time. Readers are urged to make their opinions and wants known as they come to mind. We may not be able to agree with your opinions or supply your wants, but we will try. In this way readers and journal will progress *pari passu*, and patients will be better and better served.

---

#### OUR ESSAY CONTEST ON THE PROBLEMS OF THE FAMILY DOCTOR

Last August this journal made the following announcement:

"Through the generosity of a North Carolina doctor whose attention has been attracted by our advocacy of the cause of the family doctor, a fund of \$500 has been provided for the purpose of stimulating those who know most about it to write on ways and means by which the family doctor may so conduct his affairs as to best promote his professional usefulness and his material good.

"It is contemplated to offer prizes of \$250, \$150 and \$100; the contest to be open to any reputable, regular physician in either of the Carolinas or Virginia; judges to be chosen one from each state, at least one of these to be a family doctor."

Cards were sent to nearly every doctor in the three states. The response was immediate and enthusiastic. Essays came in from the largest cities and the cross-roads; forty-two were submitted. All were passed on to

the judges: Dr. Robert Wilson, Dean of the Medical College of the State of South Carolina; Dr. Joseph A. White, Professor of Ophthalmology, Medical College of Virginia, and the first to set up as an eye doctor in that state; and our own Dr. Cyrus Thompson, Family Doctor to the County of Onslow, ex-Secretary of State, and another (after Thomas Carlyle's designation) "Professor of Things in General."

The motive inspiring the offer of these prizes was the improvement of the status of the family doctor. The doctor with whom the idea originated sees patients daily brought great distances at great expense, who could have been easily and promptly cured in their homes or in the offices of their family doctors. This specialist does not want to see patients put to unnecessary expense, inconvenience and apprehension; nor does he wish to be called on to do things which any man licensed to practice medicine should be entirely competent to do. He conceives it to be his function to treat patients who have diseases in his line, of unusual severity or rarity, which a good general doctor thinks fit best to refer.

He agrees not at all with the idea that all surgery should be done by the men who call themselves surgeons; that no gnat or cinder should be removed from an eye by any one other than an oculist; that no family doctor should deliver a woman of her baby, or take care of the health of that baby so long as it may be called an *infant* or a *child*. On the contrary, he believes that the family doctor should be, and is, competent to see after most of the ills of his patients *from tip to toe*: whether their diseases be of the nervous system, the respiratory system, the cardiovascular-renal system, the digestive system, the eye, ear, nose or throat, or the endocrine system; whether they be diseases of infancy, childhood, middle age or old age; whether they be cancerous, tuberculous, imaginary or malicious in nature; whether "in line of duty," or "due to his own misconduct." To sum up, this doctor thinks a family doctor should be a *doctor*, not a billing clerk discharging the duties of a flunkey in a receiving ward of a large hospital, military or civil; with the additional job of responding to night calls to patients who have spent their all with, and had no relief from, those who may be



seen "by appointment only."

Here it seems pertinent to draw attention to the habit of many patients of visiting the offices of specialists or calling them in, on the assumption that the symptoms felt can be best treated by such a specialist, without consulting their regular medical attendants. This is an extremely unwise plan of action. If the patient develops acute symptoms in the midst of home treatment, the specialist most likely can not be found or will not respond, and the family doctor can not know how to take up and carry on a treatment of which he has known nothing heretofore; besides, it breaks the continuity of the family doctor's record of his patient's health.

The ideal arrangement would be for family doctors to be consulted about all matters of health in the family. The family doctor, seeing his patient *as a whole* instead of as a pair of lungs, a set of teeth, an appendix, a complement of organs of generation, or the appurtenances with which to see, hear, talk and smell—each attached to parts whose sole function is to carry around the particular part to which the individual specialist happens to devote his time,—will save to his clientele much money and many a life.

One of our most popular and successful doctors tells us he has worked out a plan which he finds satisfactory. He says that when he is employed as a family doctor he explains that he will regard himself as the adviser of that family in all matters of health until he or the family makes it known that the arrangement is terminated; then, if he learns that any member of a family which has so employed him consults specialists or other doctors, without his advice, he marks them off his list and notifies them in a dignified manner that they must, thereafter, seek elsewhere for all medical service. We are for it. We wish all doctors had that much spunk and consciousness of the dignity of a doctor.

As might have been readily anticipated, the essay to which this exceptionally able court of judges awarded first prize came from a town of a few hundred inhabitants, the essayist the only doctor there. Don't assume that he is weighted with the wisdom of age, or that he is just out in practice after a long course in all offered in medical training at home and abroad. He is neither "a

young man in non-age, nor an old man in dotage." He is just at the right period to demonstrate that our help comes, not from "the hills," but from ourselves. His essay is made up of the fine fruits of good ground work, careful study of books and cases, records, reflection, balancing—all with that happy faculty of judgment which makes the major part of a serene philosophy.

Most likely we shall return to this subject. Our prediction is that tidings will come to us which will make it seem proper to say something on some angle of this subject which has not yet occurred to us at all.

Attention is invited to the essays published in this and succeeding issues. Their careful study is well worth the time of family doctor and specialist alike.

Every essay sent in contains suggestions of value. We have the utmost confidence that the ideas brought out by this series of essays will so improve the status of the family doctor as to go far toward solving the problem of supplying our rural sections with competent medical attendants in sufficient number.

Our thanks are due and hereby rendered to our brother medical man whose intelligence conceived this plan, and whose generosity made possible its initiation. Equally we thank each of the forty-two doctors without whose participation the plan would have fallen to the ground.

#### THE COMING TRI-STATE MEETING

Our association does not need now to call attention to its unique worth. This worth is already well recognized. Members and others who know about it only inquire what strikingly valuable features will be presented at the next meeting.

Our program has pretty nearly taken its final form. We are publishing it in this issue as a preliminary program. You will note evidences that the whole of it has been arranged with a view to interesting every doctor and making him more useful to his patients. The list of subjects and authors is here given with no regard to the time or order in which they will be heard. All of these papers will be good.

FEATURES OF THE PROGRAM  
Thirtieth Annual Meeting Tri-State Medical Association

Association, Virginia Beach, Virginia, February 14th and 15th.

(Others who applied early for place have generously stood aside to fill in if convenient.)

#### SYMPOSIUM ON THE REDUCTION OF MATERNAL MORTALITY

STATEMENT OF THE CASE, by Invited Guest Dr. Harold Bailey, Associate Professor of Obstetrics and Gynecology in Cornell;  
Common Faults in the Management of Normal Pregnancy, Labor and Puerperium, by Dr. Greer Baughman, Professor of Obstetrics in the Medical College of Virginia;  
Common Faults in the Management of Abnormal Pregnancy, Labor and Puerperium, by Dr. L. A. Wilson, Professor of Obstetrics in the Medical College of the State of South Carolina;  
Relative and Absolute Indications for the Induction of Premature Labor, by Dr. Pierce Rucker, Richmond;  
Relative and Absolute Indications for the Use of Forceps, by Dr. Brodie Nalle, Charlotte;  
Relative and Absolute Indications for Cesarean Section, by Dr. Oren Moore, Charlotte;  
On what considerations should the Decision between Home and Hospital Delivery be Made?, by Dr. C. J. Andrews, Norfolk;  
Cardio-vascular-renal Complications of Pregnancy and their Management, by Dr. Garnett Nelson, Richmond;  
Urological Complications of Pregnancy and their Management, by Dr. A. J. Crowell, Charlotte;  
Ocular Complications of Pregnancy and their Management, by Dr. Joseph A. White, Richmond;  
Tuberculosis Complicating Pregnancy and the Management of the Case, by Dr. C. C. Orr, Asheville;  
Mental Disease Complicating Pregnancy and the Management of the Case, by Dr. O. B. Darden, Richmond;  
Anemia of Pregnancy (The Definite Disease Entity), by Dr. Wm. Allan, Charlotte;  
Surgery of Other Parts as Influenced by Pregnancy, by Dr. Murat Willis, Richmond.  
A GENERAL DISCUSSION, opened by Dr. Harold Bailey.

#### OTHER PAPERS

Some Practical Points about Cystoscopy, by Dr. R. B. Davis, Greensboro;  
Some Pertinent Sources of Error in Diagnosis, by Dr. Warren T. Vaughan, Richmond;  
Results of the Surgical Treatment of Exophthalmic Goiter, by Dr. Carrington Williams, Richmond;  
Thyro-glossal Duct Cyst, by Dr. H. S. Black, Spartanburg;  
Malta Fever, with Report of Cases, by Drs. J. P. Williams and F. W. Shaw, Richmond;  
End Results of Gall Bladder Surgery, by Dr. Chas. S. White, Washington, D. C.;  
Roentgen Ray in the Diagnosis of the Diseases of Duodenum and Gall Bladder, by Dr. Fred M. Hodges, Richmond;  
Roentgen Ray Diagnosis of Non-Opaque Foreign Bodies in the Bronchi, by Dr. J. L. Tabb, Richmond;  
Bronchoscopy, by Dr. C. N. Peeler, Charlotte;  
Some Common Problems in Gastro-enterology, by Dr. W. R. Graham, Richmond;  
The Golden Rule in Surgery, by Dr. Southgate Leigh, Norfolk;  
Local Anesthesia in Brain Surgery, by Dr. C. C. Coleman, Richmond;  
Goiter, by Dr. Addison Brenizer, Charlotte;

Cardiac Diseases in Children, by Dr. W. C. Davison, Duke University;  
Prostatectomy, by Dr. R. B. McKnight, Charlotte;  
Relation of Morphine Addiction to Mental Disease, by Dr. W. C. Ashworth, Greensboro;  
Hysterectomies, by Dr. Geo. H. Bunch, Columbia;  
Some Subject of General Interest (Unnamed), by Dr. J. H. Hiden, Pungoteague, Va.;  
Address of the President, Dr. Robert Wilson, Charleston.

INVITED GUEST Dr. Joseph L. Miller, Clinical Professor of Medicine in Rush, will address the meeting on the Treatment of Pneumonia.

Our guest, Dr. Joseph L. Miller, one of the most deservedly esteemed internists of the country, will speak to us in his pleasing way on a subject of surpassing interest to us all, as doctors and as individuals. Did not Osler call pneumonia "the friend of the aged"? and give as his reason, "it cuts off the cold gradations of decay"? Nevertheless, most of us want to know the best means of loosening the grip of this "friend's" hand when it grasps ourselves or our patients.

Other distinguished guests have been invited and are expected, among them Surgeon General Cummings.

To say that we regard the Symposium on the Reduction of Maternal Mortality as of especial interest is no reflection on the remainder of the program. For a number of years your secretary-editor has viewed with grave concern our country's appalling death-rate incident to child-bearing.

In September, 1926, we called attention to the awful state of affairs in the following words:

"There is in fact much ground for gratulation and thanksgiving in that we have added near two decades to the average of human life in the past fifty years. But, when we turn to the mortality records of cancer and child-bearing,—then we are humbled to the dust.

It is a fearful thing to have to admit that, notwithstanding at least 30 years of intensive study of the cancer problem in every medical teaching center of consequence the world over, the death rate from this cause is not diminishing; but the nature of cancer is baffling and no people has demonstrated ability to cope with it. With the diseases responsible for deaths at child-bearing, the case is quite different: the chief is infection, which is understood and which can be prevented; the second is eclampsia, which, though not so fully understood, is almost always preventable.

It is a matter of some astonishment to note how much more is written on cancer than on child-bed diseases. *Is it possible that man's greater concern about the former is due to his immunity from the latter?*

Abstract reasoning would lead one to conclude that puerperal sepsis and eclampsia would interest men and governments far more than would cancer.

These diseases interfere with the gratification of man's vanity, as expressed in his desire for a kind of vicarious immortality carried on in the persons of his children: these diseases bring the lives of young women, who have demonstrated their powers of procreation, to untimely ends, and thus sap the strength of the State. Cancer attacks mainly those who have passed the possibility of producing new citizens, or doing useful work, and are merely lingering on the stage. Of course these should be ministered to most carefully and tenderly; we are only attempting to show relative importance from several angles.

A report from an important bureau of the national government, published in abstract in this issue, shows conclusively that something is radically wrong with the care given by doctors to expectant mothers, during pregnancy and during labor. At the 1925 meeting of the Medical Society of the State of North Carolina, Dr. Geo. H. Ross, of Durham, sounded a vigorous note against the complacency with which doctors regard the appalling maternal death rate. He pointed out that "the centers having the highest percentage of midwives have the smallest percentage of maternal deaths;" and quoted Dr. Edward P. Davis, of Philadelphia, as saying "the family physician is responsible." If there was any response to this appeal that we exert ourselves to save the lives which are being unnecessarily sacrificed on the highest of altars,—that of motherhood,—its echoes did not reach our ears.

Oliver Wendell Holmes,—poet, essayist, anatomist, and doctor,—taught the doctors of America that puerperal sepsis could be prevented. That was three-quarters of a century ago. No doubt he felt a great glow of exultation at the thought that this pestilence had been destroyed. One can but be glad that he can not know that today, if she desires a baby, a woman of his own country must face more than twice the danger of losing her life, as must a woman of Sweden, Denmark or Holland; and the same applies to such (according to our 100 per cent Nordics) inferior countries, as Japan, Italy and Finland. An Australian committee says: "Puerperal septicemia is probably the greatest reproach which any civilized nation can by its own negligence offer to itself": that is just as true on this side of the world as on the other.

The most promising remedy suggested is the making of sepsis reportable; indeed it has been well known since 1855 that it was dangerous and contagious. It would be well to go a step further and require doctors who have many cases of this disease in their practice to appear and show cause why they should not be forbidden to attend patients in confinement. No one has any sacred right to retain a license which enables him to repeatedly place the lives of expectant mothers in unnecessary jeopardy.

In the *Journal of the American Medical Association*, of December 10, 1927, S. Josephine Baker, M.D., Dr. P. H., says: "According to the latest available statistics, this country ranks nineteenth among the twenty nations of the world which can offer data on this subject." Further on: "New Hampshire, Vermont and Oregon all report that 100 per cent of their births are reported by physicians and that there are no midwives

practicing in these states." Yet all these states have higher death-rates than that of the birth registration area taken as a whole. "These comparative data do not show that the midwife can be held responsible as a dominant factor," says Dr. Baker; and really we can not see that it makes out a case against her at all, indeed, quite the contrary.

At the meeting of the first Conference on Medical Services in Canada,<sup>1</sup> in December, 1924, a resolution was passed asking the Minister of Health to make a comprehensive enquiry into maternal mortality in that country. It was found that the rate is 6 per 1,000 living births, lower than ours by .4 per 1,000. In their characteristic direct manner our cousins state: "The central topic of the enquiry is—why did the mother die and how might her death have been prevented?"; and that's the point to our symposium. One of the Canadian doctors says, "Doctors do not take these cases seriously enough;" another, "maternal life is held in too light esteem." And we are sure that many a one had in mind such words as *meddlesomeness*, *haste*, and *interference without just cause*.

Come and bring others to hear this important subject discussed, not from the viewpoint of complicating diseases to be prevented, but of a natural process to be encouraged and made safe.

Virginia Beach is now quite accessible from all Tri-State territory. For those furthest away it may be well to mention that there is a hard-surface road from Raleigh to Virginia Beach, via Richmond or Petersburg. From Danville to Richmond there is an excellent oiled road. The distance from Raleigh to Richmond is 173 miles, Richmond to Virginia Beach 100 miles. However much nearer routes for those driving from the Carolinas, and over very good roads indeed would cross the Virginia line near Emporia or Franklin. We suggest that you send cards to the State Highway Commissioners at Raleigh and Richmond, respectively, asking for most recent maps, which they will gladly send you without cost.

Within short distances of Virginia Beach (18 miles from Norfolk) are many places, buildings and objects of great historic interest. Seven miles north of Virginia Beach is



Cape Henry, where the first English landing was made which resulted in a permanent settlement. The lighthouse, built in 1690, stands on the spot where Captain John Smith landed. St. Paul's Church, Norfolk, was the only building left standing when the city was destroyed by fire during the Revolution. Twenty-five miles from Norfolk is Suffolk, and ten miles north of Suffolk is St. Luke's Church (1632), the oldest Protestant church now in use in the New World and the oldest building of English construction in America. Across Hampton Roads are Fortress Monroe and the Newport News shipbuilding yards. Within an hour's ride are Williamsburg, for nearly a hundred years capital of the state, and offering as attractions to the visitor; Bruton Parish Church, in which is the font from which Pocahontas was baptized; the old Powder Horn and Debtor's Prison; the College of William and Mary, second oldest in the country; and the Eastern State Hospital, the first institution for the insane to be erected in the United States. A few miles to the north is Yorktown, the surrender of which by Cornwallis terminated the Revolutionary War.

While you are participating in a meeting of the highest order, members of your family who have accompanied you can be enjoying most exceptional treats which you can readily share on the return trip.

We are counting on the largest and most enthusiastic meeting in Tri-State history.

---

<sup>1</sup>Canadian Medical Association Journal, December, 1927.

#### SOUTH CAROLINA'S WAY

We like the way South Carolina folks do things, especially their love for their traditions and their belief in individualism. In an age when there is a great clamor for *standardization*—when it seems that the great majority think the millenium will dawn when all of us have eyes of the same color and foreheads of the same height, wear the same size and cut of clothes, live in the same kind of "bungalow," read the same newspaper, eat prunes from the same box for breakfast and ride to the same picture show in the same style of Ford—it is refreshing to come into contact with a people which has,

to probably a greater degree than any other in our country, retained its individuality.

A good many months ago it was our privilege to attend a meeting of Charleston's medical men. A pleasing thrill was experienced when the president rapped and announced: "The Medical Society of South Carolina will come to order." Some time later at a meeting of what would have been on our side of the line The——District Medical Society, the meeting was begun with, "The Seventy-sixth Annual Meeting of the Pee Dee Medical Association will come to order." To our eyes it is a lovely thing to see a spirit of regard and respect for things of former times, a spirit of agreement with "remove not the ancient landmarks."

A "Charleston County Medical Society" or a "district society" of a certain number would not carry the same suggestion as these titles which have mellow associations; and the fact that other societies were being rechristened, in the reorganization of things medical twenty years ago, did not appeal to our neighbors to the south as a sufficient reason for getting bright new labels for their societies.

Another illustration of this fine individualistic sense is shown by the Marlborough County Society keeping up a long standing custom of holding their very special annual meeting and banquet in January, in utter disregard of the fact that other societies do nothing of the sort. The meeting, a meager account of which is given in the news column, was the first we had been privileged to attend. The program was one of great interest and worth. President Smith's account of work being accomplished by the State Association under his presidency was quite a revelation. Dean Davison's appearance was his first before most of those present, and on every hand were heard expressions of gratification that so talented and understanding a man had been chosen for a position of such importance to the doctors of the Carolinas. Dr. Rucker's address represented a courageous invasion of what most of us regard as uncertain and treacherous ground. Of course, neither he nor those who engaged in the discussion regard very much on the subject as proven. All of us hope for more light. Dr. Guerry's paper was a well bal-

anced statement that surgery is the main reliance in thyroid disease, one with which most will agree. Dr. Mobley's essay appealed to us because of his presenting cost to the patient as a factor of importance in advising treatment.

Dr. Craft and Dr. Strauss, following the examples of their forefathers in medicine in Marlborough, arranged an excellent program and had present a fine lot of men with whom to enjoy it. It was a meeting far removed from the commonplace, and, as was their custom in former times, favored medical men were glad of the privilege of journeying from Charleston, Columbia, Durham, Charlotte, Fayetteville, and so far away as Richmond.

Some two years ago a scholarly Chinese was invited to address that elect of the elect body, the Williamston Institute of Politics; and that calm, suave Oriental philosopher, the product of five thousand years of culture, talked to us for the good of our souls—if we would only take the medicine. He mentioned "your philosophy, such as it is"; he said "The moral ideas which are only copy-book maxims with you are rules of daily conduct with us"; but we were not condemned utterly till he told us, in all truth, "From a standardized cradle to a standardized coffin you are hurried, flurried, worried and buried."

Such a fate can be escaped only by emulating the example of South Carolina.

## DEPARTMENTS

### HUMAN BEHAVIOR

JAMES K. HALL, M.D., *Editor*  
Richmond

#### A SENTENCING COMMISSION

It may be well that society is controlled by those who have rather fixed ideas, otherwise chaos might reign. Yet the chief purpose of education must be to bring about the development of new ideas, otherwise there could be no progress.

The problems caused by criminal behavior are causing grave concern to all thoughtful people. Crime endangers life, destroys property, and disorders the social organization. One of the chief functions of law is to prevent crime, and to punish those who behave in criminal fashion. No state has ever been able to prevent crime absolutely, and no physical body has ever succeeded in dealing rationally with crime because no adequate effort has ever been adopted for the proper study of the criminal. Were the character and the personality of the criminal thoroughly understood so-called criminal behavior could be dealt with more intelligently. The consequence would be that the criminal could be handled sensibly and society would be

more thoroughly protected. But little progress can be made in dealing with the complex problems arising out of criminality until more is known about those persons who are brought to the bar as criminals. It is foolish to think of all criminals as insane; it is even more foolish to think of all of them as sane. A person who commits a crime is either unable or unwilling in the specific circumstance to do otherwise. Why? That is the problem presenting itself for study; I was about to say for solution, and then it occurred to me that a mere mortal, or a group of mortals, is too fallible to solve completely any large problem. But, by proper effort, we can deepen our understanding of many situations about which we know little. Typhoid fever at one time, and not long ago, constituted a grave menace in the southern states. The treatment of a patient prostrated by that malady consisted of a rather elaborate medical ritual, which resulted often in the death of the patient. The medical man understood most imperfectly the condition with which he was dealing. Now that the cause of the disease is known the condition is prevented by a few proper hypodermic injections. Malaria once constituted a pest. But since the causative agent of malaria has

been discovered and the life-history of the parasite has become well-known the disease is more easily dealt with.

The human mind lends itself less readily to thorough understanding than the human body, but there can be little doubt that natural laws prevail in the domain of the mental as well as in the realm of the physical. Nothing could be more intangible than electricity, or light, or heat, or the force of gravity, yet scientists have developed considerable knowledge of these forms of energy. And such knowledge is respected because it is demonstrable.

I am convinced from personal experience with one specific mentality—my own—that the most difficult thing in the world is to maintain an open mind. No one has an open mind; perhaps no one wants to have such a mind. It is not an easy matter to subject every problem to analysis. Thinking means working and most of us are unwilling to do work that can be avoided. And we are able to think more of our own characters if we carry around at all times fixed opinions about all problems that may arise. Most of us are motivated by ignorance and by prejudice. In respect to the matter of dealing with criminals this statement must be approximately true. It is easier to adopt the Old Testament attitude towards crime than to attempt to work out a character-analysis of an individual prisoner in this year of grace 1928.

Mere treatment of an act of behavior is as unscientific and as foolish as the treatment of fever by the application to the surface of the body of ice-water.

Not long ago Governor Alfred E. Smith, of New York, addressed the Crime Commission of that state. Press dispatches report that Governor Smith in that address advocated the cessation of the function of the Judge in the criminal courts of that state in reference to the determination of the kind and the duration of the punishment of the convicted prisoner. The trial Judge, in the opinion of Governor Smith, should have nothing at all to do with punishing the prisoner. The trial should be presided over by the Judge, as at present, and the jury should find the prisoner guilty or innocent, but after conviction has been established, the duties of jury and Judge would be at an end. In sub-

stitution of the "sentencing Judge" Governor Smith advocates the selection of a Commission, composed of lawyers, doctors, and penologists. The convicted prisoner would be entirely in the hands of the Commission. A thorough study would be made of the prisoner and he would be dealt with in such manner as his condition justified,—electrocuted, imprisoned, or committed to an institution for treatment.

Can there be valid and sustainable objection to a suggestion so revolutionary as that of Governor Smith? There can be objection and there will be objection. It will be embodied in such a phrase as: Who ever heard of such a thing? And that is a powerful objection. But such a thing has been heard of. The Supreme Court of the United States is composed of a Commission. The Supreme Court of each state is composed of a Commission. The educational board of each state is made up of a number of individuals, and so is the Highway Commission of each state. Why? Because group-study and group-judgment is better than individual opinion.

In succinct form Governor Smith advocates:

That the jury should determine only the guilt or the innocence of the person on trial.

That after a jury has returned a verdict of guilty the power of imposing sentence should be taken from the Judge who presided at the trial and given to a special State Board to be created by a constitutional amendment.

That the members of this Board should include legal experts, psychiatrists, and penologists, devoting their entire time to the work, and that the members of such a Board should be salaried state officials. That this Board would determine whether a convicted felon should go to a state prison or to an insane asylum; and that it should determine the length of punishment and the extent of parole that should be granted to a prisoner.

Governor McLean, of North Carolina, has a pardon commissioner who examines prisoners designated by the Governor. In Virginia Governor Byrd has a Commission which examines all admissions to the penitentiary, except those who have been sentenced to the electric chair. Many of these latter prisoners are examined at the express command of the Governor. But in each of the above



states the function of the examining body is wholly for the purpose of informing the Governor.

The suggestion of Governor Smith would vest such a Commission with judicial as well as with investigative functions.

Would trial judges object to the contemplation of surrendering the sentencing prerogative they have so long held? Perhaps, but why?

---

## PEDIATRICS

---

*For this issue, G. W. KUTTSCHER, M.D.  
Swannanoa, N. C.*

---

### THE UNDERWEIGHT SCHOOL CHILD

The problem of the underweight school child is an active subject of discussion on the part of both laymen and members of the medical profession. It is so because it is such a definitely prevalent condition in all our schools of today. This preliminary report recapitulates the work proposed in the Swannanoa (Buncombe county) consolidated schools. From time to time and when the end results are at hand reports will be made in this column relative to the test here outlined.

In the first place we feel we have found a possible solution for this common problem. In the way of a possible solution we propose to break the school day for some of these children and institute a rest period. The argument concerning "the long school day" will not be carried on here, but we will state that we feel that the long school day contributes grossly to the prevalence of underweight children in our schools. Believing this to be one of the major contributing factors in the production of this condition, we have proposed to attack from this angle. At the end of the school year we will learn whether or not our efforts were successful in proving our point.

Conditions as we find them here are to be found generally throughout the state wherever the consolidated school is to be found. The children travel to and from school briefly by means of the school bus. That means they arrive and leave with and when the bus is scheduled.

In the city many children are now leaving

school at the end of the morning session on advice of their physician in an effort to combat malnutrition, fatigue, etc. On arrival home they are given a warm meal and sent to bed for an hour's rest. That is what we wanted to do here; but the children needing the rest had no transportation home at the end of the morning session. Therefore the following is the plan proposed:

Every teacher by monthly weighing of her pupils already knew the underweight pupils in her room. The teacher was asked to send any or all of her underweights to be examined by us. In this way the children were chosen by the teacher and not by the physician. They were given a thorough physical examination with reference to posture, feet, height-and-weight-for-age, etc. The results of the examination of fifty underweight children in the first three grades showed each child to average more than 10 pounds underweight.

Letters were then sent to the parents advising them of the condition of their children and asking their permission to enter the child in a certain class. The letter explained the plan and further asked them to help the child carry out a few "health chores." The Parent-Teachers Association had previously endorsed the program.

Twenty of the fifty children examined were then chosen, to form two groups of ten children each. One group was to be known as the "test group," and the other as the "control group." Each group contained as nearly as possible the same number of children living under similar social and economic environment. Both groups totalled the same number of pounds underweight. Another important factor in the selection is that no child was nettered into either group who was suffering from any pronounced disease. In other words, the physical examination was essentially negative for disease in all these children in both groups.

Because of the availability of a supervising teacher for the period, the hour from 1:45 to 2:45 was chosen as a rest hour. The pupils in the test group each day are excused from their respective classrooms, and assemble in a designated room for their rest period. The floor is covered with floor covering and the children remove their shoes

before walking on the covered floor. Each child supplies his own double blanket, and rolls up in it to rest, and sleeps (if sleep comes) for the hour. After the room is quiet the supervising teacher opens the windows, and the children thus have the added benefit of the fresh air. The windows are closed before the end of the hour, and the room temperature is allowed to return to usual before they arise. Strict discipline is enforced during the hour. At the end of the hour each child rolls up his own blanket, and the class is dismissed. The children then return to their respective rooms until 3:10, when school is dismissed for the day, and the busses arrive to take them home.

The control group is allowed to go on as they have always done with no special attention whatsoever. At the end of each week the pupils in both test and control groups are weighed. The ten in the test group at this time place gold stars on their own personal wall charts, if they have carried out the various duties asked of them. A prize is offered to the one gaining the greatest number of stars on his chart by the end of the school year.

Following is a list of the requests made of each pupil in the test group, for carrying out of which he is permitted to place a gold star on the chart each week: 1. gain in weight, 2. regular school attendance, 3. brushing teeth twice daily, 4. bathing twice a week, 5. retiring each night by 7:30 p. m., 6. discipline during rest hour. This list of requests was designed to appeal to the children, and included things they could do alone, without help from their parents.

We realize the plan can be readily criticised because of the small number included in the groups. Small groups were chosen because of lack of space and supervising teachers. If successful this year it will be carried out on a larger scale next year. No mention has been made at this writing concerning milk in school, diet, home care, etc. These subjects will be taken up in the following article.

The co-operation of the parents being absolutely necessary for success in this undertaking to bring the underweight children up to normal weight, the following suggestions are offered. The closer the suggestions are

followed the greater will be the success for your child.

1. The child must be in bed each night at 7:30 sharp, including Saturdays, Sundays and holidays.

2. Reduce to a minimum the child's consumption of candy and sugar, because they tend to destroy his appetite for substantial foods.

3. Try to have the child drink a quart of milk each day.

4. Allow no fatty or greasy foods because they interfere with good digestion. Add no cream to the milk the child drinks.

5. See that the child rests in bed one hour each day from 1:45 to 2:45 p. m. when he is not in school.

6. Each child will bring to school one double blanket for use during rest hour at school.

7. Have the child drink a glass of milk and eat some crackers on his arrival from school.

Your child if accepted will be in a contest with others where he will be credited with carrying out the requests as to:

1. Attendance at school.
2. Brushing the teeth twice daily.
3. Bathing twice a week.
4. Being in bed each night at 7:30.
5. Conduct during rest hour at school.

## EAR, EYE, NOSE AND THROAT

*For this issue* H. L. SLOAN, A.B., M.D.  
Charlotte

### HEMORRHAGE IN THE ANTERIOR CHAMBER

Hemorrhage into the anterior chamber of the eye is a very frequent occurrence. The etiology is varied. The most frequent cause is traumatism. Slight hemorrhage from a blow on the eye, as a rule, causes very little concern, as the hemorrhage is so often absorbed in a few days. However, there are severe forms in which the whole anterior chamber is filled with blood, which becomes clotted and almost completely fills every nook and cranny of the anterior chamber. In removing it the blood seems to be rooted in the iris. This condition is often accompanied by increase of tension and great pain.

I am mentioning this particular type because I feel that I have saved four such eyes by opening the anterior chamber and remov-

ing the clot. The pain, which may be excruciating for days, is usually relieved in three or four hours after operation, and most of these eyes go on to complete recovery. There is another feature that is worth considering. If the blood is left in the anterior chamber, in addition to the liability of losing the vision from increased tension due to mechanical interference with the aqueous circulation, there is also danger of blood staining of the cornea, which in my experience has cleared up, in never less than two years, and often longer. De Schweinitz gives as his experience that it takes two years for the blood staining of the cornea to disappear.

So far as I know this plan of treatment is original with me. I am hoping that it may be given a trial in these severe cases of hemorrhage in the anterior chamber. My experience has taught me that this treatment is well worth the effort.

---

## ORTHOPEDIC SURGERY

---

O. L. MILLER, M.D., *Editor*  
Charlotte

### REMOVAL OF THE METATARSAL HEAD FOR HALLUX VALGUS AND HALLUX RIGIDUS

In view of the rather general prevalence of defective feet in supposedly well people and the particular disability and discomfort attached to these conditions, it is interesting to note the experience and observation of Perkins as brought out in the *Lancet* of March, 1927.

In the management of these deformities, he excises the head of the metatarsal at the level of the neck. A plane vertical surface of bones is left; protruding spikes are removed and the edges are beveled. The phalanx is not touched. The sesamoids are left intact. No splints are used afterwards.

#### HIS RESULTS IN FIFTY CASES

From the patients' point of view:

The vast majority are immensely pleased. Many were prevented from working before operation owing to pain. All are now at work as shopmen, policemen, porters. None had pain in the big toe joint. Some had pain in the other toes, and under the outer side of the forepart of the foot.

From the surgeon's point of view:

In all cases the valgus had disappeared. The great toe was usually shorter than the second toe. In seventy-five per cent there was a small amount of permanent dorsiflexion so that the big toe did not come down to the ground. The average range of movement was fifteen degrees. Ten degrees of dorsiflexion seemed ample for every purpose of the big toe. The range of movement, whether small or large, was invariably painless.

#### CAUSE AND RELIEF OF METATARSALGIA

Little importance is attached to the anterior arch. Metatarsalgia and a flat anterior arch are often associated, because with a flat anterior arch there is often a fixed dorsiflexion of the metatarso-phalangeal joints of the toes, and it is the limitation of plantar flexion of these joints that causes the metatarsalgia. The heads of the metatarsals are not intended by nature to act as a fulcrum for the propulsion of the body. If they are so used, callosities of the skin result and an irritative arthritis of the metatarso-phalangeal joints.

The essence of the treatment consists in restoring the fulcrum from the heads of the metatarsals to the toes, hence one's aim is to increase the range of plantar flexion.

The review of the results supports this hypothesis. On this account it is suggested that before the patient leaves the operating table, the interphalangeal joints should be forcibly straightened, and the metatarso-phalangeal joints should be forcibly plantar-flexed, after tenotomy of the extensor tendons if necessary, and maintained in that position by plaster till the tenth day.

---

## UROLOGY

---

For this issue, **RAYMOND THOMPSON, M.D.**  
Charlotte, N. C.

### PERINEPHRITIC ABSCESS

Perinephritic abscess is an inflammation of the retroperitoneal tissue surrounding the kidney. This may arise from an infection derived from the kidney or bowel, from the blood, or from the lymphatics; it may result from the introduction of infectious material from without by means of a penetrating wound. It is commonly associated with suppuration or trauma of the kidney, ulcer of the large intestine, appendicitis, inflammatory process in the spine or may occur as a metas-



tatic lesion in general sepsis. The abscess is usually posterior to the kidney and may follow down the psoas muscle. If the diagnosis is not made fairly early and properly treated, it may perforate into the subdiaphragmatic space or into the pleura, the peritoneum, the intestine or even into the renal pelvis itself. These perforations into other organs may be followed by fistulae. The two cases here reported are classified as of hematogenous or lymphogenous origin. The tissue injured by the blow was infected by pyogenic organism brought to it in the blood or lymph channels.

*History.*—It is interesting and important to note how frequently this condition follows an injury to the back or loin. Sometimes it is a direct blow but it may even follow a twist or sprain to the back muscles. It is most frequently the former and usually it is a blow with a blunt object which causes a dislodgement of the kidney from its bed with associated hemorrhage and hematoma formation. Subsequent infection of the injured tissue and blood clot by way of the blood or lymph stream is the next sequel.

*Signs and Symptoms.*—There is usually a septic temperature curve with excessive sweats. Local tenderness usually is present. There may be a swelling or a resistance to touch. With extension of the abscess along the psoas muscle there usually is the sign of a retracted thigh with pain on attempted extension. The patient frequently complains of a fullness even when no definite mass can be palpated.

There is a considerable degree of leucocytosis with a relative polymorphonuclear increase. The resistance index is usually good. After the condition has been present for some time there is a more or less severe degree of secondary anemia. The urine obtained by ureteral catheter may be entirely negative but if seen early in the disease, blood is usually present. A trace of albumin is the rule. There may be an associated or pre-existent infection of the kidney's interior, which would give certain urinary findings which may confuse the picture. It should be remembered that at the abscess stage the urine may be without distinct pathological signs.

The radiograph is of considerable service as urography may show a displaced kidney

or one twisted on its axis, or may reveal some signs of pressure upon the ureter. A large abscess may displace the kidney in any direction and may cause pelvic deformities. These latter are more marked as a result of cicatricial changes when the lesion has been existent for some time.

*Diagnosis.*—While the history, the temperature, the excessive sweats, the leucocytosis, the local tenderness and the psoas symptom complex are of great diagnostic importance, the only absolute sign is the location of a collection of pus in this area. This is usually done by aspiration through a needle. The site of choice for puncture is over the point of greatest resistance and tenderness, if these be present. Great care must be taken not to damage any of the structures. It is very helpful to have the radiographic film at hand as an atlas of the anatomy of the given case.

*Treatment.*—Surgical drainage is essential. Local or general anesthesia may be used. The main points to observe are:

- 1st: Complete evacuation of all pus pockets. This is sometimes a difficult procedure.
- 2nd: Maintenance of a fistulous tract adequate in size to carry the discharge.

#### CASE REPORTS

CASE No. 1—Male, age 18, student; referred by Dr. C. J. McCombs, Gastonia, N. C., who made a tentative diagnosis of perinephritic abscess.

Chief Complaint: Pain in right side and back and fever. Family and past history: negative except for removal of tonsils and adenoids eight years ago, good results. Present Illness: Pain in right side and back, daily rise of temperature 103 degrees to 104 degrees, duration four weeks. Five days before present illness began patient had injury to right side while doing jumping exercise. Examination: Poorly developed, and anemic, apparently has lost considerable weight; heart and lungs normal except rapid pulse; temperature 103 degrees. Abdomen negative except slight tenderness right side. There was slight swelling and marked tenderness on deep percussion over right kidney region.

Laboratory: Urine: acid, glucose negative, albumin negative. Sediment: 4 to 6 pus cells to h.p.f., no casts, no bacteria. Blood: hemoglobin 11.8 gms. per 100

c.c. (68 per cent Sahli). r. b. c. 3,960,000, w. b. c. 16,200. Differential: polys 75 per cent, lymphs 18 per cent, lm&ts 6 per cent, eosin 1 per cent. Wassermann—negative.

Cystoscopy: External genitalia negative; no difficulty in passing cystoscope; no residual urine; bladder capacity normal; ureteral openings normal in appearance and location; ureters catheterized, no obstruction. Urine from left ureter, no pus; urine from right ureter, no pus. X-ray: kidneys, ureters and bladder negative.

Aspiration: Right kidney region aspirated, frank pus withdrawn through aspirating needle.

Diagnosis: Perinephritic abscess, right, pyogenic infection.

Treatment: Operative drainage of perinephritic space.

Subsequent Course: Patient made a satisfactory convalescence.

CASE 2—Male, age 15, student; referred by Dr. Henry Glenn, Gastonia, N. C., with tentative diagnosis of perinephritic abscess.

Chief Complaint: Pain in left side. Family and past history: negative except for tonsillectomy, age 7, good results. Present illness: Pain or soreness in left side; daily rise of temperature 103 degrees to 104 degrees, duration 12 days; history of injury left side playing football four or five days before fever appeared. Also, history of boils on neck. Examination: Well developed, looks toxic. Temperature 104 degrees; heart and lungs normal; abdomen negative except tenderness left side and back; there was only moderate tenderness on deep percussion over left kidney region, no swelling.

Laboratory: Urine: acid, albumin negative, glucose neg. Sediment: a very occasional pus cell, no blood, no casts, no bacteria. Blood: hemoglobin 11.2 gms. per 100 c.c. (65 per cent Sahli), r. b. c. 3,960,000, w. b. c. 19,200. Differential: polys 77 per cent, lymphs 22 per cent, lm&t 1 per cent. Wassermann—negative.

Cystoscopy: External genitalis negative; no difficulty in passing cystoscope;

no residual urine; bladder capacity normal; bladder wall and ureteral openings normal; left ureter catheterized, no obstruction; urine from left ureter, no pus. X-rays, kidneys, ureters and bladder negative.

Aspiration: Left kidney region aspirated, no pus found. Twenty-four hours later a second aspiration; moderate amount of pus withdrawn through aspirating needle.

Diagnosis: Perinephritic abscess, left.

Treatment: Operative drainage. There was a large deep abscess between the upper pole of the kidney and the diaphragm and lying in the retro-peritoneal space. A large amount of pus was evacuated and the usual drainage instituted.

Subsequent Course: This patient improved rapidly but continued to show a septic type of temperature curve. Upon further investigation, a small abscess was found in the upper part of the incision which had healed by this time. This abscess lay between the fistulous drainage opening and the skin. The convalescence from this point was uneventful.

---

## RADIOLOGY

---

JOHN D. MACRAE, M.D., *Editor*  
Asheville, N. C.

---

### ECZEMA AND X-RAYS

What is eczema? There is no clean-cut answer to this question. It is a dermatitis always, but all skin inflammation is not eczema.

Many efforts have been made to define eczema. One eminent dermatologist considered the disease due to a special infectious organism but of course had to recede from such a position. Some would confine the use of the term to those skin eruptions which have a constitutional origin or which spring from internal disturbances. Others, admitting that internal factors play a part, describe eczema as dermatitis such as can be excited in any skin by external irritants.

Usage has limited the term eczema to certain forms of dermatitis, eliminating many conditions formerly described as such, by

adding to the word dermatitis, descriptive adjectives which are suitable, such as dermatitis venenata, dermatitis medicamentosa, dermatitis herpetiformis, etc., etc.

Pusey says eczema is not a distinct pathologic entity; it is rather a group of symptoms in the skin which can be produced by innumerable causes.

The characteristic changes in the skin in eczema are erythema, the formations of papules, vesicles and pustules. There will be exudation of serum, exfoliation of scales of horny epidermis and proliferation of connective tissue. The eczematous lesions vary in extent from one small spot to universal involvement of the skin. The type of the disease will be in accord with the predominating process; as papular, pustular or squamous eczema.

Eczema constitutes 40 per cent or more of all diseases of the skin and I believe it is caused by more different things than any other skin disease. The causes are constitutional and metabolic; that is, internal causes and external, such as chemical, bacterial, traumatic and irritation from sun-rays or from temperature changes.

Illustrating cases are: eczema in nephritis, in constipation, and in people who suffer under severe nervous or emotional stress. That such cases are directly related is proved by observing many instances where the relief of the constitutional cause is followed by relief of the skin lesion. Eczema accompanies scabies, and occurs in dish-washers, in the folds of the skin of infants and in adults as the result of uncleanness.

Any of the external causes acting in the presence of metabolic disturbances make the disease more difficult to treat. Also it is frequently the case that the cause for eczema is obscure and hard to recognize. As when one is sensitized to certain foods. Every case of eczema presents individual difficulties and should be studied exhaustively. Its causes and complications must be recognized and then it will be possible to institute intelligent treatment.

Naturally a disease which has so many causes and which is often obscure in origin, will have an almost unlimited number of remedies. They are selected to remove the cause, to cure the complications, to relieve the distressing itching, burning and pain and

to hasten the absorption of infiltrates and restore the indurated tissues to a normal pliant and soft condition.

X-rays are conceded to be the most useful single therapeutic agent in the hands of the dermatologist. They are of great value in the treatment of eczema, and are indicated in most cases. If, however, x-rays are used to the exclusion of other remedies, such as those selected to remove the cause of the disease, they may prove disappointing and thus throw a valuable agent into disrepute.

While x-rays are a most valuable agent, it must not be forgotten that their use is accompanied by certain dangers, and doses must be administered by one who understands them. It is wise to give small doses, not more than enough to limit the reaction to the diseased tissues. One-fourth of an erythema dose given once a week will relieve itching and pain and stop proliferation of abnormally active epithelial cells. At the same time softening and smoothing of the indurated tissues will take place.

---

## SURGERY

---

GEORGE H. BUNCH, M.D., *Editor*  
Columbia

---

### POST-OPERATIVE PHLEBITIS

Beginning with tenderness along the veins phlebitis of the lower extremity develops most often in the second week after laparotomy. The vein itself can sometimes be felt as a tender cord beneath the skin but in about one-half of the cases there is edema obscuring the outline of the vein. In them the leg is swollen, pale and waxy looking. The tissues pit on pressure. This is the phlegmasia alba dolens or milk leg of pregnancy that is due to puerperal infection and comes from septic thrombosis of the femoral vein. After laparotomy the pathology is not usually as advanced as this and the only evidence of phlebitis may be tenderness along the vein and soreness of the leg when used. There is in 90 per cent of the cases fever, usually slight, with a high differential and an increased poly count but the condition may be afebrile throughout. Sometimes there is evidence of infection in the deeper tissues of the wound but usually there is healing without supuration.



The cause of post-operative phlebitis is not definitely understood. Before the day of Lister and aseptic surgery high mortality from septic thrombo-phlebitis and gangrene in the wounded was expected. Now under modern surgical conditions septic thrombo-phlebitis has practically disappeared. There can be no reasonable doubt that phlebitis is caused by infecting microorganisms. Stasis of the blood in the veins of the leg when the patient is in bed after laparotomy must be a predisposing cause in its development for phlebitis is seldom clinically diagnosed elsewhere. The significance of this fact must be obvious to anyone seeing many surgical cases. Wounds should be solidly closed. Dead spaces in the wound collect serum and are prone to the development of a low grade infection and phlebitis. After the Gilliam operation for retroversion we have had our highest incidence of post-operative phlebitis and we attribute this to the collection of serum about the round ligaments where they are sutured above the fascia in the laparotomy wound. We believe unabsorbable suture material is irritating to the tissues and predisposes to wound infection. We think our post-operative phlebitis is less since we have used only catgut and silk-worm gut in the closure of our abdominal wounds.

The prevention of phlebitis is the prevention of tissue infection and of blood stasis. Better technique results in less wound infection and in less phlebitis. Some operators after laparotomy keep the patient for some days with the foot of the bed elevated to prevent stasis in the legs. We think encouraging the patient to move herself about in bed and to change position often is a better way of preventing stasis.

The treatment of phlebitis is elevation and rest of the leg until the inflammatory symptoms have disappeared. As long as there is fever, soreness or tenderness the patient should be kept in bed with the leg elevated and at rest. When recognized early and treated promptly symptoms disappear in about ten days, on an average, but if the patient continues to use the leg both the swelling and the disability become worse. The patient should be frankly told that the symptoms are due to an inflammation of the vein in which the blood clots and tends to obstruct the vessel. That the condition is

self limited and with rest will soon subside, but that if the leg is moved or used while the disease is active there is a real danger of the clot becoming detached and free in the blood stream, always a serious and sometimes a fatal complication.

Nurses in training should be taught that tenderness along the inner thigh or over the calf is probably due to phlebitis. Although the clot may be firmly adherent to the vessel wall rubbing and massaging the leg are dangerous and should be prohibited. Only when both nurse and patient understand the necessity for elevation and rest of the leg can the physician be sure of their co-operation.

---

## THERAPEUTICS

---

FREDERICK R. TAYLOR, B.S., M.D., *Editor*  
High Point

### AN INTERESTING PSYCHOTIC EPISODE AND ITS INTERPRETATION

Christmas makes it difficult to carry on the routine of editorial work, and we find ourselves quite unable to think of anything worth while in the strict field of therapeutics. There is always a way out of such a difficulty, however, and that is, to cite the obvious principle that sound therapy must depend on sound diagnosis, and then discuss some diagnostic problem. We have just begun to study a patient so interesting and with such a unique history, that we have no apologies for taking this easy way out and writing about his case in this department.

A married carpenter, 53 years old, has a rather interesting family history. His father had a stroke resulting in a hemiplegia at the age of about 49. He was also subject to "epileptic fits" and died in such a fit at the age of about 53. Four sibs are well. One brother is alcoholic and was paralyzed on one side at the age of 41. The patient's wife and 7 children are well. One daughter is in the State Hospital at Morganton for some mental condition believed to be of a temporary nature. She is also deaf.

The patient's past history is essentially negative—he has had 3 attacks of influenza, and the usual diseases of childhood, but recovered completely from all

of them. He denies venereal disease, and there is no history of any severe injury. He has never had any convulsions, and little headache.

His chief complaint is a peculiar mental disturbance, involving a loss of memory and mental confusion over a period of about 48 hours.

On a Saturday night, after having drawn \$27.00 in pay, he went out with a young man. They both drank a little whiskey out of the same bottle, the young man drinking a little over a gill, the patient a little less than a gill. Both returned home at about 9:00 p. m., perfectly sober, so far as can be learned. The patient's wife keeps a boarding house, and the patient himself occupies a room alone, as a rule. On this night, his wife waited up for him, but when he came in, instead of going to his own room, he went to another vacant room in the house, and went to bed, according to his story. His wife did not hear him come in, and finally went to bed herself, thinking he was still away from home. From this point on, the patient admits that his memory is very poor, and the next morning his daughter called him to breakfast, and found him very hard to arouse. Finally he came to breakfast, but found himself unable to explain certain things. He thought that "a tall thin light-haired doctor had come to his room at midnight and given him something to drink." However, he knew no such doctor, and neither he nor anyone else in the house had sent for a doctor. He also kept seeing a ball of twine before his eyes. When he woke up, he had only \$1.50 of the \$27.00 he had drawn the day before, and he felt sure he had not spent more than a few cents after he drew the pay, buying nothing more than a couple of coca-colas. After breakfast he went back to bed, and slept till 4:30 p. m. He came down to supper, still confused in his mind, and then went back to bed. Next morning he tried to work, but could not find tools right beside him, so had to quit. The day after this, still confused, he went to see Dr. E. F. Long, who gave him a purgative, noted that his teeth were

very bad, sent him to a dentist, and then suggested that he consult us if he had further mental trouble. We first saw him on Wednesday, four days after the apparently sudden onset of his trouble. His mind was clear at that time, but he could remember little of the preceding few days. There were no organic neurologic signs. His temperature, pulse, respiration, and blood pressure were entirely normal. His only visual defects might easily be due to needing glasses. He had just had his upper teeth extracted, his lower teeth were all bad, with marked pyorrhea. Nothing further abnormal could be observed. He seemed to be clearing up from his attack, whatever it was. We had him come to the office the next morning for further study. His eyegrounds were normal. His prostate was moderately enlarged, and slightly tender, but probably was not hypertrophied enough to account for his symptoms, even the nocturia which usually gets him up 3 or 4 times every night. His urine, however, contained a trace of glucose, but was otherwise negative—there was no diacetic acid present. Dr. Bonner examined his eyes and reported a marked refractive error, which he corrected with glasses. He found no other abnormality in the eyes. The patient now remembered that he spent \$16.00 on his automobile, and thought that he might easily have spent the rest of the missing money, and the idea of theft after the administration of a drug was definitely abandoned.

Here is a case of rather unusual interest and unique symptomatology. It is by no means a "text book case," and the interpretation of it taxes our best skill. The family history is bad enough to suggest likelihood of a definite psychosis, and such has by no means yet been disproved, despite marked improvement in the patient's condition. The history of the present trouble suggested the possibility of criminal poisoning for the purpose of robbery, but after several days that seems to be fairly well excluded. Is the glycosuria the key to the whole situation, or is it a mere incident? We do not yet know. The absence of diacetic acid makes the diagnosis of a diabetic psychic disturbance some-

what uncertain, yet it is worthy of serious consideration. There may have been a definite acidosis present at the time of the acute symptoms, which disappeared before we examined his urine, but this, of course, cannot be assumed with any certainty. Is the whole case one of bad liquor, perhaps producing some pancreatic disturbance of a temporary nature? This may be possible, but seems unlikely. If the liquor was bad enough to be entirely responsible, one would expect the young boy who drank more than the patient did to be affected more or less, but there is no evidence that it injured him in any such way. Bad liquor plus a mild diabetes might produce some kind of disturbance that it would not do in a non-diabetic, but this is pure speculation, and gets us nowhere. All we can do is to watch the patient, and try diabetic therapy, and also get a wassermann, which we are doing. Of course, if the condition is specific, specific treatment is indicated. Since his first visit to the office, the patient has been sugar free on a restricted diet, and has felt better than he has felt in a long time. His nocturia has disappeared. He did have excessive thirst, and this is better now. The small amount of sugar originally found—a mere trace—plus the ease of getting him sugar-free, the absence of diacetic acid at the time of examination, the severity of the symptoms, yet their more or less spontaneous and rapid improvement, along with the whole history of the patient, makes the interpretation of the picture very difficult, but also makes the study of this case peculiarly fascinating. If any new developments arise, we will report them in a subsequent number of this journal. Whatever the final interpretation may be, this case illustrates the importance of thorough study. It would be easy to say "just drunk," to blame it on criminal poisoning, etc., and miss some of the most interesting and perhaps the really essential features of the case.

A Happy New Year to everybody!

Telephone operator: "It costs seventy-five cents to talk to Charleston."

Salesman: "Can't you make a special rate for just listening? I want to call up my wife."

George Mechanic: Where's the fan belt?

College Student: Say, fella, if you're so anxious to get posted on geography, why don't you go to college?—*Blue Ox.*

## OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville,

### SOME PATHOLOGICAL CONDITIONS OF PREGNANCY

In discussing the pathological conditions of pregnancy it is well to call our attention to what we understand to be a normal pregnancy. A normal pregnancy is that condition through which the mother passes without any discomforts or disturbances of the normal physiological function of the body. The only thing that makes her sure that she is pregnant at first is the cessation of menstruation. Then she notices very slight changes in the body, particularly the breasts, and then she notices the movements. In the last month she is perfectly comfortable except for the fact that she is a little awkward in movement and has some difficulty in getting up and down. Any condition different from this presents pathological symptoms. In reading the literature of recent years, and reading DeLee's last book on "The Principles and Practices of Obstetrics," we certainly have much more pathology during the period of pregnancy than the profession in general is recognizing. In reviewing the statistics of mortality during labor and following and the morbidities and many of the invalid conditions that prevail following delivery and the puerperium, it is evident that we, as family physicians, are not truly recognizing a good deal of pathology that is in existence during the period of pregnancy. It is going along doing its deadly work without any combat from us.

It is impossible to cover all of the pathological conditions in this brief paper, but we wish to mention some of the most common conditions and emphasize the importance of recognizing and treating them.

1. There is the simple type of plain nausea and vomiting with loss of appetite, and a lot of discomfort. It apparently is a very common opinion among the laity and family physicians that a woman cannot be pregnant unless she has some nausea and vomiting. Even the slightest nausea and vomiting present a pathological condition which may terminate seriously or may terminate with some difficulty. This nausea and vomiting and



loss of appetite and some loss of weight should be faced seriously from the beginning and treated most vigorously.

2. There is another type of condition where you have a more marked symptom of nausea and vomiting, almost complete loss of appetite and the urine shows a trace of albumin and you have an increase in the blood pressure from 120 to 148 or 150. If this nausea and vomiting and albuminuria is allowed to prevail and the increase in the blood pressure after the patient passes three or four months of pregnancy, she begins to develop some edema of the lower extremities which may terminate fatally. If this is not checked the edema may become more or less general. This type of condition should be recognized and very vigorously treated.

3. There is another type of the same condition, but it shows more marked symptoms besides the nausea and vomiting and albumin in the urine and increase in the blood pressure and swelling with headache.

At the present time we do not know fully the changes taking place in the liver in these cases, nor do we know just what changes take place in the circulatory system and in the kidney. When we have had opportunities to study more completely the changes that take place in the liver and in the circulatory system and in the kidney we may obtain facts which will be of great value in treating the condition. Also, we have not had opportunities to study the changes that are taking place in the placental tissue in these cases and it may be that we will find information there that will help to combat these pathological conditions.

From reading in this field it appears that at the present time, in America particularly, a large percentage of pregnant women have pathological conditions. This being the case it seems very wise to call our attention to this fact and to urge more vigilant study and observation on our part in the recognition of these conditions and in the treatment of them.

There are pathological conditions which apparently are in existence apart from pregnancy itself. The first one of these is cardiac disease, which may involve the valves, the heart muscle and the pericardium, or any one of the three may be involved. We have been taught to believe that in these cardiac

lesions the pregnant woman is in very great danger. This is true no doubt, but if the condition is recognized at the beginning and the patient is put on the proper diet and under the proper observation and she is most carefully watched, if she does not have any one of the conditions just described above, then she has a very good opportunity to pass through the period of pregnancy, delivery and puerperium without any special danger or harm to herself or baby. There are a good many patients with cardiac conditions who pass along unrecognized until something happens to them.

Now, the etiology of many of these heart conditions can be traced back to an old throat infection usually. In some instances it may be traced back to an acute infection, measles, scarlet fever, etc., in early life, or it may be due to an old acute osteomyelitis. At any rate these cases should be investigated very thoroughly and the past history gone into and gather all the facts as far as possible and use them to assist the patient through her experience of pregnancy.

Frequently, in reviewing literature, you run into the term "Toxemia of Pregnancy." This is a good phrase and gives to the mind the proper picture when it is used, but if we could use more the term "Pathological Conditions of Pregnancy," that is, study the abnormal as contrasted to the normal, it is possible that we might develop in this direction a little more and have our wits trained to keep a picture of the abnormal and try to work out a better description of these pathological conditions. In proportion as we are able to understand the pathological conditions—in the same proportion will we be able to work out a simple method of treatment.

There are local pathological conditions which we should recognize. One of these that we frequently see is the enlarged veins of the lower extremities and the vulva. There are a large number of women who have this condition which annoys them a great deal and during the last three or four months of pregnancy they suffer a good deal of pain in the lower extremities because of the above condition. The veins become so engorged and the tissues become more or less water-logged, and these altogether cause pain. Frequently these veins rupture and the patient has extravasation of the blood into the tissues. This

tendency to varicosities should be recognized early and if possible the extreme condition prevented. There are many invalids throughout the country today due to this condition, primarily because they have been neglected both by themselves and the family physician.

Such pathological conditions as syphilis, tuberculosis, acute nephritis, chronic nephritis, deformity of the pelvis, new growths of the uterus and ovarian cysts will be discussed later. These are pathological conditions that are rather common and should have most careful consideration of the family physician.

At the outset the editor planned to outline treatment for the pathological conditions discussed in this paper, but we find it will take too much space for this time and in the next editorial we will take up the treatment for the pathological conditions described in this issue.

---

## NEUROLOGY

---

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston

### EXAMINATIONS

This time of year begets philosophy. The retrospective glances over the shortcomings of 1927—and the hopeful anticipations with which we greet 1928 serve to make our mood one of wistful regret combined with determination to do better work, and take advantage of the fleeting moments. No one should become so cynical and disillusioned as to cease making New Year resolutions. The newer psychology makes much of "motivations;" and emotional drives, born of crowd habit, help tremendously in laying the foundation for desirable habit formation. Or, to put the matter bluntly, make a New Year resolution that you will practice better medicine and stick to it.

There is a simple resolution which, if adhered to, would make good neurologists out of all of us. That is, to examine each patient who comes to us carefully and systematically. In no other field of medicine will strict adherence to a formal, step-by-step examination be so productive of reward. There is such precise knowledge of the form and function of the nervous system that one can, by evoking in succession the various responses to proper stimuli, learn with great exactness of

the presence and location of pathological processes. Any good text book of neurology will outline a procedure which, if followed carefully, will make the diagnosis in the vast majority of cases. For some strange reason, many students and doctors avoid neurology because it is "vague and abstract." They are wrong. No department of medicine is more concrete and specific than organic neurology. This may be indicated by outlining the method of neurological examination. After the general survey of posture and gait, one may begin with the twelve cranial nerves and, with a machine-like precision check the condition of each. Then the skin and deep reflexes will inform as to the condition of the pyramidal tracts and the peripheral nerves. By simple systematic tests the sensory system can be worked out. Finally the extra-pyramidal tracts the cerebellar functions and the sympathetic nervous system should be studied. Then one has a complete orderly knowledge of the functional condition of the nervous system. Pierre Marie, the inspired French clinical neurologist, says: "In the diagnosis of nervous disease, it can be said at present that a physician instructed in neurology ought to be able to diagnose with certainty a malady presented to him.

*"A methodical examination of the principal pyramidal tract reflexes.*

*"A precise analysis of the qualities of the sensibility.*

*"Determination of the matricity of the extremities, the trunk, and the face.*

*"Investigation of the more frequently occurring cerebellar disturbances.*

"This is all that is needed in order to make a diagnosis possessing a maximum of exactness."

In addition to the information to be derived from a systematic study of motility and sensation, we possess in the examination of the spinal fluid an incalculable aid. Spinal puncture is easy and safe. There is no possible excuse for a physician to fail to make use of it. In the acute infections of the nervous system it will often make the diagnosis with certainty at a single examination. In the chronic inflammations the spinal tap is almost as valuable. The diagnosis of syphilis of the nervous system is indicated beyond doubt in a high percentage of cases. In the post-graduate clinics held at the Medical Col-

lege of the State of South Carolina last September the writer was astonished to find how many able, competent physicians admitted that they had never done a tap.

The cell count and the globulin estimation, which can be done by anyone possessing a microscope and a few test tubes, are of paramount importance. If these estimations be normal almost all the inflammations can be ruled out or at least found improbable. In fact, I know of no procedure in medicine so informative in serious diseases as the examination of the spinal fluid.

The ophthalmoscope is unquestionably of great value to the neurologist. Many of us depend upon the findings of the more experienced eye specialist, but simple ophthalmoscopy can be done by any physician, and the knowledge derived will decide many a knotty case. In cases where brain tumor or cerebral trauma may be present, the appearance of the disc and the retina aids materially.

Nothing has been said about the history of the case. It is of very great importance. It should be taken slowly, carefully and in very great detail. It will often point the way to the diagnosis even before the physical examination is begun. But beware of snapshot diagnoses. Impressive to the immature beginners, the real student knows that they are dangerous and lead to slovenly thinking. After a survey of the situation disclosed by a careful anamnesis and examination, the most probable diagnosis should be arrived at, as the brilliant and much lamented Santhard pointed out, by discarding the least probable, in a logical and systematic manner.

No system of diagnosis is infallible but a rigid adherence to the type outlined above will give a very high percentage of correct estimations. So high that your New Year resolutions will make you a very competent neurologist, and thereby bring you much satisfaction of mind, and perhaps more material gains.

#### GREAT GRAND-DAD

*Tempora mutantur, nos et mutamur in illis*  
(Author unknown but Cy is suspected)

Great grand-dad when the land was young  
Barred his door with a wagon tongue,  
The times were rough and the heathen mocked  
And he said his prayers with his shotgun cocked.  
He was a citizen tough and grim,  
Danger was like "duck soup" to him.  
His great grand-son now falls asleep  
And fears no harm from the darkness deep,  
For great grand-dad fought and won  
And tamed the land for his great grand-son.

Great grand-dad was a busy man,  
He cooked his grub in a frying pan,  
He picked his teeth with a hunting knife,  
And wore the same suit all his life.  
He ate corn bread and bacon fat,  
But great grand-son would starve on that.

Great grand-dad was gaunt with toil  
Grimed and seamed with the sun and soil,  
But great grand-son is fat and clean  
And rides to his work in a limousine.

Twenty-five children came to bless  
Great grand-dad's home in the wilderness,  
Laugh at the statement, if you can,  
But great grand-dad was a busy man.  
Twenty-five children, and they grew  
Stout and tall on the bacon too,  
Slept on the floor with the dogs and cats,  
And shopped the woods for their coon-skin hats.

Freud was a mystery, so was jazz,  
Giving their parents a scornful raz.  
If they got fresh with great grand-dad  
He tanned their hides with a hickory gad.  
He raised them rough, but he raised them well.  
If they took hold of the ways of hell,  
He filled them full of the fear of God  
And frailed their pants with an old ram-rod.  
They grew strong of heart, and strong of hand,  
The firm foundation of our land,  
Twenty-five boys, but his great grand-son  
To save his life can't manage one.

#### TELL THE CHILDREN

Don't leave the sidewalk until the coast is clear.

You can't run faster than an automobile or a street car. Don't try to.

If your ball rolls on the street let it go until the traffic passes.

New toys are easier to get than new legs.

When a motor driver sounds his horn he is not playing a game of tag. Keep out of his way.

Don't try to "grab a ride." You may fall off, or you may have to get off at a dangerous point.

Look both ways before you attempt to cross the street. To the Left until you reach the center, then to the Right till you are on the other sidewalk.

Don't run into the street to beg a ride.

Don't be afraid not to take a dare.—Whiteville (N. C.) *News-Reporter*.





## CORRESPONDENCE

## THE OTHER SIDE

December 28, 1927.

To The Editor:

"Oh wad some power the giftie gie us,  
To see ourselves as others see us."

Teaching is the greatest thing in the world; not that it profits the teacher at all, the teacher is forgotten, but the teaching lives. Furthermore, teaching, real teaching, meaning always the teaching of truth; is not an acquisition, but a gift.

In shortening the time required for graduation in the Duke Medical School, are the men in control of this matter promising their students a higher, or a lower standard, in medical education? Has not the present time of requirement, in the best and leading medical schools, been set by men who have given a lifetime of thought, and earnest consideration to all that is involved, in equipping men for the practice of the science, and art, of Medicine and Surgery? Are these men teachers, or educators even, that they assume to set aside a time limit that has been established both at home and abroad, after years of consideration, and is known to involve no waste of time to the man who is entering the professional life? The most unfortunate and disastrous feature of teaching today is the fact that men are made teachers before they know anything to teach; being made incumbents of chairs in colleges through political preferment rather than because of profundity of knowledge, or of having the gift of imparting knowledge to others.

The vacation, the "rest time," is not wasted. After an interval of relaxation both mind and body come back to college work with renewed energy and vigor. The young man with enthusiasm for the life-work he is

entering (and without this no young man should enter it at all) keeps in touch with his text books, and avails himself of every opportunity for clinical observation. And you know clinical teaching is the greatest feature of it all. Text books are the A B C vivified and given functional life by clinical teaching and demonstration.

In this city, the natural choice of the giver of the gift in perpetuation of his life-work, the population will increase with its industries, and especially with its growth as an educational center, and the clinical material, of such vital importance, will come, and be available.

High walls are wonderful, and text books, like the Blue Back Speller of old, can never be forgotten; but the clinical teaching, by a man who lives in his work, and realizes its responsibility, is the essential feature of college life, fitting the student for the care of the lives of human beings.

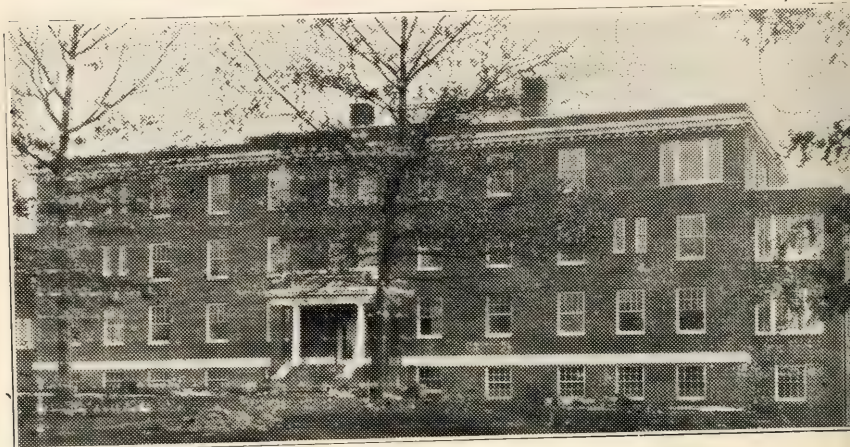
The gift, in living evidence of the altruistic and philanthropic trend of the mind of the giver, is wonderful beyond compare. But! if he were living today and this question were asked him, of the issue now at stake in shortening the college term, his reply I am very sure would be, "I do not know, this matter I must leave to the teachers and educators, who have given the subject more thought." And, in a subconscious way, this same wind would say, with its clear-cut vision of the best in product, "Let me ask of you that North Carolina does not lower the standard of medical education, through the forces brought to bear by political or commercial powers."

—H. S. Lott.

308 Masonic Temple, Winston-Salem.

## NEWS NOTES

HAYWOOD HOSPITAL, COUNTY'S PRIDE, OPENED DECEMBER 31ST



(We are indebted to the Asheville Times for the loan of cut and story)

Leaders in state medical work gathered with interested citizens from all parts of Haywood county and western North Carolina to take part in the exercises on the afternoon of the 31st, marking the opening of the Haywood County Hospital, a \$100,000 structure on highway 10, in Waynesville.

Dr. J. T. Burrus, of High Point, president of the North Carolina Medical Society, and Dr. W. S. Rankin, director of the Duke Endowment Fund, were the chief speakers at the exercises, which started shortly after 1 o'clock at the court house with speeches, and which was to be concluded with an inspection by these officials and other leading medical men of western North Carolina. The hospital was to be kept open for the inspection of the public until 5 o'clock.

Dr. Burrus and Dr. Rankin lauded the public spirit of the men who made possible the hospital, a long step forward in the development of the county.

Already fifteen rooms had been taken to be furnished by county clubs and church organizations, it was learned Saturday. Other organizations are planning to take rooms.

Those already taking part in this work are: Methodist church of Canton, Presbyterian church of Waynesville, Roman Catholic chapel, Masons, Rotary Club, Bramlett Brothers, Boosters Club of Hazelwood, Junaluska Leather Co., Unagusta Manufacturing Co., Hyatt & Co., Community Club of Waynesville, Phillips Construction Co., and three by the Methodist church of Waynesville, one each by the Sunday school, the board of stewards and Woman's Missionary Society.

A great crowd started gathering long before the exercises were scheduled to open at the court house, and it was evident that the institution, which fills a long-felt need in Haywood, would be filled during the afternoon with interested parties inspecting its

facilities, which are of the latest design.

The building is three stories in height, with basement, and is of forty-bed capacity. On the main floor are wards capable of caring for twenty patients. Offices, examination rooms, and a section for colored patients also are located on this floor. Private rooms are on the second floor. On the top floor are the operating rooms, sterilizing rooms, x-ray department and maternity section, nursery, ward for temporary care of insane patients and some private rooms.

On each floor are ample diet kitchens, charts, linen and bath rooms. Large solariums are at the ends of the first and second floors.

The out-patient department consists of reception room, accident room, examination room, x-ray and laboratories. This department is located at one end of the basement.

The culinary equipment is of the latest, and ample provision has been made for the classes in nursing.

This is said to be the first general hospital in the state founded, and to be supported by county funds.

---

THE MARLBORO COUNTY MEDICAL SOCIETY held its annual New Year's meeting and banquet on the afternoon and evening of January 12th at the Masonic Temple, Bennettsville, S. C. The following excellent program was given:

(1) Matters Pertaining to the South Carolina Medical Association, and (2) Upper Respiratory Infections in Children, by Dr. D. L. Smith, President S. C. Medical Association, Spartanburg, S. C. Discussion opened by Dr. W. C. Davison, Durham, N. C.

The Plans for the Duke University School of Medicine, by Dr. W. C. Davison, Dean, Duke University Medical School, Durham, N. C.

The Relationship of the Female Sex Hormone to the Onset of Labor, by Dr. M. Pierce Rucker, Richmond, Va. Discussion opened by Dr. Oren Moore, Charlotte, N. C.

General Considerations About Surgery of the Thyroid Gland, by Dr. LeGrand Guerry, Columbia, S. C. Discussion opened by Dr. D. L. Maguire, Charleston, S. C.

Infections of the Maxillary Sinuses, by Dr. M. R. Mobley, Florence, S. C. Discussion opened by Dr. D. W. Green, Mullins, S. C.

An elaborate dinner separated the program conveniently. Immediately after the dinner the Secretary-Treasurer of the Tri-State Medical Association spoke very briefly on the program of this association's meeting to be held at Virginia Beach, Va., February 14-15, and invited all those present to attend.

More than a hundred were in attendance. Among the many other guests present were: Dr. E. A. Hines, Seneca; Dr. L. A. Wilson, Charleston; Wm. Egleston and J. L. Powe, Hartsville; G. H. Bunch and M. H. Wyman, Columbia; J. T. Coggeshall, Darlington; C. B. Epps, Sumter; J. F. Highsmith and R. L. Pittman, Fayetteville; A. F. Mahoney, Monroe; A. C. Everett, Rockingham, and J. P. Matheson, J. P. Munroe and W. P. Biggart, Charlotte.

---

THE WAYNE COUNTY MEDICAL SOCIETY entertained at a banquet on January 7th.

Dr. C. F. Strosnider was master of ceremonies and called upon Rev. W. O. Cone to deliver the invocation. Following the banquet Dr. T. M. Bizzell took charge. Several contests put on by him were enthusiastically entered into by ladies and gentlemen and prizes were given.

There was a riot of applause and laughter at the singing contest between Dr. M. E. Bizzell and Dr. Lee Overman.

Dr. Strosnider presented Dr. A. G. Woodard, president of the society, and then welcomed the visitors on behalf of the society. The response was made by Mrs. J. N. Johnson.

"Why I do not choose to be a physician" was the topic which Rev. W. O. Cone discussed to the amusement of the profession. A talk by Dr. James Parrott, of Kinston, was the final number on the program.

---

THE TRI-COUNTY MEDICAL SOCIETY, which is composed of members of the medical profession in Lincoln, Caldwell and Catawba counties, will convene in Lincolnton at the Lincoln Hospital, on Tuesday, January 19th.

---

THE CLINICO PATHOLOGICAL SOCIETY met in the Medical Library, Charlotte, N. C., December 12th. Subject—Symposium on the Heart. Program:

Clinical Physiology of the Circulation, Dr. E. J. Wannamaker; Diagnosis of Heart Fail-



ure, Acute and Chronic, Dr. A. A. Barron; Coronary Thrombosis, Dr. R. F. Leinbach; The Immediate and Ultimate Prognosis in Heart Diseases, Dr. J. P. Munroe; Treatment of Certain Heart Conditions, Dr. L. G. Gage; Discussion, Drs. D. H. Nisbet, Wm. Allan, L. W. Kelly.

Officers: Dr. Claude B. Squires, president; Dr. A. A. Barron, vice-president; Dr. J. Rush Shull, secretary-treasurer.

The out-of-town men present were: Drs. A. McNeil Blair, L. B. McBrayer, J. S. Miliken and W. C. Mudgett, Southern Pines; T. M. McCoy, Mt. Holly; Robt. B. Groves and James W. Reid, Lowell; J. F. Swann, R. H. Garren, R. E. Rhyne, W. B. Hunter, McG. Anders and W. W. McChesney, Gastonia; G. D. McGregor, Lynchburg, Va.; H. D. Stewart, R. H. Garren, A. F. Mahoney and S. A. Stevens, Monroe; C. M. Bynum, Marshville; J. B. Elliott and J. R. Desportes, Fort Mill, S. C.; D. B. Cole, Richmond, Va.; Geo. R. Patrick, Bessemer City; W. H. Parsons, Ellerbe; John I. Barron and W. C. Whitesides, York, S. C.; D. L. Myers, Statesville; and Thos. F. Stixrud, Luebo, Congo Belge, Africa.

During the meeting of the AMERICAN PSYCHIATRIC ASSOCIATION this year in Cincinnati there was formed the Central Psychiatric Hospital Association, which is composed of private sanatoria for the care and treatment of nervous and mental diseases. The organization was the culmination of several years' thought and a feeling that the necessity existed for such an association. At Minneapolis in October permanent officers were elected as follows: President, Dr. Thomas Ratliff, Cincinnati, Ohio; vice-president, Dr. Russell Doolittle, Des Moines, Iowa; secretary-treasurer, Dr. D. A. Johnston, Cincinnati, Ohio; councillors, Dr. Frank Norbury, Jacksonville, Ill., Dr. Karl Menninger, Topeka, Kans.

The purposes of this Association are to foster co-operation among private hospitals for nervous and mental diseases for their mutual benefit and to promote and maintain higher standards, increase efficiency of organization and the advancement of scientific care and treatment for those in their care.

A committee on standards is meeting with

the council in Chicago, December 14, 1927, to formulate standards for hospitals of this type.

---

FOUNDERS' DAY MEDICAL COLLEGE OF VIRGINIA—Founders' Day of the ninetieth session of the Medical College of Virginia will be observed at the First Baptist church, Twelfth and Broad streets, Richmond, on Friday, January 20, beginning at 11 a. m.

Dr. Louis B. Wilson, director of the Mayo Foundation for Medical Education and Research, the University of Minnesota, will deliver the address.

The academic procession, including the board of visitors, invited guests, faculty and students, will be formed at McGuire Hall, Twelfth and Clay streets, at 10:40 o'clock.

Following the Founder's Day exercises, the cornerstone of Cabaniss Hall will be laid at twelve o'clock. The service will be conducted by the Lewis Ginter Lodge No. 317, A. F. & A. M., Mr. T. Coleman Andrews, master.

---

THE MECKLENBURG COUNTY MEDICAL SOCIETY meets January 17, at Lincoln Hospital, Lincolnton, N. C. Program as follows:\*

The Presence of Goiter During Pregnancy, Dr. James W. Gibbon; Classification and Management of Urologic Conditions in Infancy and Childhood (illustrated by grouping of fifty cases), Dr. Hamilton W. McKay; The Treatment of Pneumonia, Dr. John P. Munroe.

Dr. L. A. Crowell has invited the doctors of adjoining counties to meet with us and to inspect the new wing of the Lincoln Hospital. A buffet supper will be served after the meeting.

---

MEMORIAL TO DR. ARTHUR PRITCHARD—The board of directors and staff of the French Broad Hospital, Asheville, N. C., announce the formal opening of the Arthur T. Pritchard Memorial Wing, Monday, January 16, 1928.

---

Dr. J. A. Martin, of Lumberton, was elected president of the ROBESON COUNTY MEDICAL SOCIETY at its regular meeting held in the Lorraine hotel. Dr. C. T. Johnson, of Red Springs, was made vice-president, and Dr. J. N. Britt, of Lumberton, secretary and

treasurer. Dr. H. M. Baker, of Lumberton, was chosen a delegate to the state society, with Dr. A. B. Holmes, of Fairmont, as alternate. Censors elected were Dr. J. McN. Smith, of Rowland, and Drs. R. S. Beam and E. L. Bowman, of Lumberton. Dr. Frank McLeod, of Florence, S. C., spoke on medical ethics.

---

DR. CHAS. W. SAWYER, an eccentric old physician of Elizabeth City, N. C., died December 18th.

Dr. Sawyer was 70 years old and had lived in Elizabeth City since 1896. He was a native of Perquimans county, but prior to coming to Elizabeth City he had practiced medicine and operated a drug store in Nashville, Tenn.

He shunned women and lived much to himself. He would sit alone with his dogs for hours and talk to them while they wagged their tails understandingly. Again he would sit and pat his feet, and think upon this crazy life. He was convinced that most of the world was crazy and some in the world re-tailiated by calling him "Crazy Dr. Sawyer." But he was apparently happy.

Much of his happiness was derived from the fact that he wasn't troubled with the common mania of wanting things. He lived a very simple life, ate simple foods, made a suit of clothes last a long time and wore a black hat until it had turned green and started turning black again. He was averse to spending money and deplored the extravagance of everybody about him. He subscribed to stock in the new community hotel because he was proud of his town, but he never took his meals there and he would have scorned the suggestion that he take a room in the hotel and make himself clean and comfortable for the rest of his days. And so he left an estate estimated at about \$65,000 for others to enjoy. There was much curiosity as to what disposition had been made of his wealth and so a blacksmith came and smashed his safe in so eager heirs could read his will before his body was put in the cold, cold ground.

But aside from his eccentricities which harmed no one but himself, Dr. Chas. W. Sawyer was a good man, a good neighbor, a good citizen; he was loyal to his church, loyal

to his friends, loyal to his town and benevolent in many remarkable ways that were utterly unknown to those who called him "stingy."

---

DR. J. H. HARRISON, Littleton, N. C., died recently at the age of 69 years. He began practicing medicine there in 1896, later organizing the Bank of Littleton, of which he was president for several years.

---

DR. WILLIAM H. HOUSER, of Cherryville, one of the most prominent men in the county, died January 7th, after a serious illness of two months. He attended Wake Forest and the North Carolina Medical College. Among the offices of honor and trust which he had occupied was vice-president of the Medical Society of the State of North Carolina.

---

DR. W. P. WHITTINGTON, Asheville, N. C., died January 4th, at his home, age 73 years. He was active in the practice of medicine up until a very short time before his death. For the last several years he had been specializing in x-ray with special attention to therapeutic x-ray. He was senior deacon of the First Baptist church, Asheville. He had been a representative in the General Assembly of North Carolina.

---

DR. A. H. ROSE, Smithfield, N. C., has been elected member of the Board of Education of the city of Smithfield.

---

DR. W. J. B. ORR, of Smithfield, N. C., has been elected president of the Kiwanis Club for 1928.

---

*Ephedrine hydrochloride*,  $\frac{1}{8}$  to  $\frac{1}{4}$  gr. from once to thrice daily, gave relief from spasmodic cough and vomiting in 18 or 20 cases of whooping cough in which it was used. In all cases some cough remained but was mild, none of the characteristic signs of whooping cough remaining. No serious toxic symptoms were noted. No complications occurred. Most benefit was got in the second stage. The small dosage was satisfactory.—*Anderson and Homan*, in *Am. J. Med. Sc.* for December.

---

## REVIEW OF RECENT BOOKS

**TRIUMPHS OF MEDICINE**, by H. S. Hartzog, jr., Reporter, St. Louis Medical Society, with a foreword by M. G. Seelig, M.D., Professor of Clinical Surgery in the Washington University School of Medicine, author of "Medicine: an Historical Outline." Illustrated. Garden City, New York, Doubleday, Page & Company, 1927. \$3.00.

This book is written by a layman who has so greatly interested himself in medical affairs as to become reporter for a large medical society. His studies in the history of medicine have acquainted him with the tremendous benefits which medicine has conferred on society, and, perhaps because of his lack of medical training, he writes accurately and convincingly without getting beyond the understanding of an intelligent layman.

It is a book which every regular doctor could well wish his patients to read, and from which he, himself, will gain a good deal of valuable information, as well as entertainment.

The chapters are on: The Break with Priestcraft, The Development of Anatomy and Physiology, The Development of Surgery, Later Advances in Surgery and the Development of Antisepsis, Anesthesia, Vaccination, Discovery of the Role of Microorganisms and Their Relation to Infectious Disease, Studies in the Spread of Infectious Disease, Antitoxin, Insulin, Reduction of Infant Mortality Through Diet, Preservation of the Teeth, Drug Therapy, Instrumental Precision, The Hospital, Prevention.

A Text-book of **PRACTICAL THERAPEUTICS**, by Hobart Amory Hare, B.Sc., M.D., LL.D., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; Twentieth Edition, enlarged, thoroughly revised and largely rewritten. Illustrated with 158 engravings and 8 plates. Lea & Febriger, Philadelphia, 1927. \$7.50.

Arriving at its twentieth edition has not impaired the vigor of this useful handbook

of the doctor who believes in curative agents, and so does content himself with what he can do in diagnosis. Few new remedies are included, but much of value concerning old ones has been added. The increased use of ethylene, novarsural, metaphen, ephedrin, isasen and some others have caused them to be described. Several new sera are added as worthy of consideration.

The table of solubilities placed at the front and discussion of incompatibilities after each drug will answer the needs of some of the respondents to our recent questionnaire.

The arrangement is convenient: General Therapeutic Considerations, Drugs, Remedial Measures other than Drugs, Feeding the Sick, Diseases, Index of Drugs and Remedial Measures, Index of Diseases and Remedies. Treatment of diseases of special parts is revised by appropriate specialists.

Further Contributions to the **THEORY AND TECHNIQUE OF PSYCHO-ANALYSIS**, by Sandor Ferenczi, M.D., Ex-president International Psycho-analytical Association; President Hungarian Psycho-analytical Society; Late Medical Adviser to the Hungarian Law Courts, etc. Compiled by John Rickman, M.A., M.D., Hon. Sec. Institute of Psychoanalysis, London. Authorized translation from the German by Jane Isabel Suttie, M.A., M.B., Ch.B., and others. Boni & Liveright, Publishers, New York, 1927. \$5.00.

The author says of this collection that it does not give a systematic survey of the development of psychoanalysis but only the author's personal contribution. The opinion is expressed that, for the understanding of the healthy and diseased mind, analysis of direct inner perception has more prospect of permanence than methods based on the materialistic point of view.

"The controller-in-chief of all our actions and thoughts is the pleasure-principle, the endeavor to escape if possible from unpleasant situations, the desire to obtain the greatest possible gratification with the smallest possible effort." He explains the great part



of sexual repression in the causation of psycho-neuroses, by the fact that the greatest sacrifice that the individual has to make in the interests of society is in regard to such desires.

Treatment by suggestion and treatment by psycho-analysis, although by many thought to be to all intents and purposes identical, are based on quite contrary conceptions. "Psycho-analysis occupies itself with excavating hidden archaic memorials in the depths of the mind; from then it deciphers the hieroglyphs of the neuroses."

Illustrative case reports support and elucidate the text.

Author and translator have given us a most engaging book, the first on this subject, which has enlisted the interest of the reviewer. One does not need to agree with all its conclusions to see that here an honest attempt has been made to ascertain the truth and pass it on to others and it is well worth reading for its literary merit.

The book is made up of lectures delivered over a number of years, short papers "from the nursery," discussions of dreams and symbolism, a section on applied psycho-analysis and four special lectures concerning medical jurisprudence and religion.

---

ANNALS OF THE PICKETT-THOMSON RESEARCH LABORATORY, Volume III (Containing a historical survey of researches on the streptococci). President, Sir Ronald Ross, K.C.B., K.C.M.G., F.R.S., Nobel Laureate. Published for The Pickett-Thomson Research Laboratory, St. Paul's Hospital, London, by Bailliere, Tindall & Cox, Covent Garden, London, in America The Williams & Wilkins Company, Baltimore, 1927.

This large volume is devoted entirely to studies of the streptococcus group and Volume Four will concern itself wholly with this group. The ubiquity, diversity, and pathogenicity of this organism warrant the most exhaustive study; and while the detailed account is of most interest to laboratory workers, the discoveries and conclusions are of the first concern to every man in the practice of medicine.

---

### OUR DOCTOR

(By Susan Leland Craig, Saluda, N. C.)

We hear that the family doctor  
Is vanishing from our ken,

That the specialist only is qualified  
To handle the ills of men.  
And we grieve for all the dear people  
Whose bodies are handled so,  
Whose torn and twisted and troubled hearts  
The healing will never know,  
Which flowed from that friendly helper,  
That magnetic man of yore,  
That great old, grand old, dear old man  
Who all of our troubles bore—  
That kindly old man,  
Understanding old man,  
That handsome old man,  
Our Doctor!

This one that we have we shall cherish,  
And right reverently now do we say,  
"Thank God for this dear doctor-friend  
That we have in our midst today."  
For no matter what is the trouble,  
Just anything under the sun—  
A tooth to pull, or a bone to set,  
The stork to aid, or a nurse to get,  
A house to build, or a car to buy,  
A business begin, or some venture to try—  
Who is the man to whom we run?  
To whom for advice do we go?  
That great old, grand old, dear old man  
Who offers us counsel sure—  
That kindly old man,  
Understanding old man,  
That handsome old man,  
Our Doctor!

---

### SUGAR IN SWEAT

A fermentable reducing substance, assumed to be dextrose, because of the procedure followed, was found to be a normal constituent of sweat, and the rate of its excretion was studied.

The rate was found to be increased in cases of eczema in which the tolerance for sugar was lowered.

The volume of sweat has also been found to be increased in such cases.

A causal relationship between the excretion of sugar in sweat and eczema is suggested.—Excretion of Sugar in Sweat, B. Usher, M.D., and I. M. Rabinowitch, *Archives Dermatology and Syphilology*, December, 1927.

---

## CHUCKLES

### BET HE DIDN'T WAIT TO HEAR THE RETORT

An Irish Presbyterian chaplain, on being ordered down the line, said his adieu to a Roman Catholic priest who had shared his dugout. "Good-bye, padre," he said. "I'm sorry we have to part. With all our differences we have been very good friends. We've got on together finely. But, then, we're both doing the Lord's work—you in your way and I in His."—*Lincoln County News*.

The orator had just begun his speech by saying, "As I gaze about I see before me a great many bright and shining faces."

Just then eighty-seven powder puffs came out.—*The Reflector*.

### AND THAT'S JUST WHAT HE SAID

They apparently had not met for some time. They were sitting in the gloaming listening to the roll of the sea.

"And you say you were in the town where I live last week?" she murmured, softly.

"Yes!"

"And you thought of me, John?"

"Aye, I did," replied John. "I said to myself, 'Why, isn't this where what's-her-name lives?'"—*Tit Bits*.

### GETTING EVEN

Now comes the story of the absent-minded professor who rolled under the dresser and waited for his collar button to find him.—*Western Reserve Red Cat*.

### VERSATILITY

Hostess (to gloomy youth)—"I hope you enjoyed your game with Major Swift. He's awfully clever at cards."

Youth—"I should think he is! He started by telling my fortune, and now he's counting it."—*Tit Bits*.

### DOWN WITH GERMS

Visiting Doctor—"How is it, Sambo, that you and your large family keep so healthy?"

Sambo—"Well, suh, Ah tell you: we've done bought one of dose sanitary drinkin' cups, an' we all drinks outen it."—*The Reidsville Review*.

### OR BEARING ONE ANOTHER'S BURDENS

Massachusetts newspaper says that "Mr. and Mrs. Raymond Perry of 191 Dana avenue, Hyde Park, gave birth to a boy on May 31." That is what Little Jeff would call team work.—*Monroe Journal via Greensboro News*.

### SHOULD HAVE KNOWN THERE WAS A TRICK IN IT

"I've been watching that mechanic for the last fifteen minutes. There's a man that knows his business. He didn't spill a drop of oil on the ground. He put down the hood gently, fastened it securely and left no fingerprints on it. He wiped his hands on clean waste before opening the door, spread a clean cloth over the upholstery, meshed the gears noiselessly and then drove slowly and with caution into the street."

"Yeah. That's his own car."—*Life*.

## The "Supreme Authority"

For the Schools

### WEBSTER'S NEW INTERNATIONAL DICTIONARY

Constantly revised and improved to keep abreast of modern needs and information. Thousands of NEW WORDS such as audion, joy stick, Coolidge tube, Fascisti, radiophone, Freud, aerograph, eugenism, etc.

Whatever Your Question about words, persons, places, you find here a ready accurate answer. 2,700 pages; 452,000 entries, including 408,000 vocabulary terms. 12,000 biographical names, 32,000 geographical subjects; 100 tables; 6,000 illustrations.

One of the wisest of our school superintendents says: "I have never yet seen a person, whether pupil or teacher, who was accustomed to the frequent use of the dictionary who was not at the same time a good or superior all-round scholar." A better test than this of the value of dictionary work could not be found.



G. & C. MERRIAM COMPANY  
Springfield, Massachusetts

## More Essays On

### "HOW THE FAMILY DOCTOR CAN INCREASE HIS USEFULNESS AND HIS INCOME"

Submitted for improvement of the Status of the Family Doctor—Stimulated by prizes  
offered through Southern Medicine and Surgery

DR. ROY P. FINNEY, Spartanburg, S. C.

I do not know how the practice of taking inventory originated; perhaps with the shepherds of ancient times who carefully counted their sheep as they herded them into the fold. It must be a very valuable procedure for wherever capital is invested or labor applied, wherever business is booming or industry thrives, there we find men patiently with pencil and paper perpetuating and modernizing the old, old custom of taking inventory.

The discussion to follow of "how the family physician can increase his usefulness and his income" will be for the most part an inventory of the family doctor and his practice, of his available assets and how he uses them, of his liabilities and how he cancels them. Very little distinction will be made between how he may increase his usefulness, and how he may increase his income, for after some reflection I have concluded that they are nearly synonymous. What increases one increases the other, and the reverse is also true.

#### THE OFFICE AND EQUIPMENT

The first item is an attractive and well equipped office, something rarely found, especially in the smaller towns. Sweeping conclusions are often formed from impressions, and all psychologists stress the importance of first impressions. Who but can point to an instance where he gained or lost because of it? The dirty, dingy, ill ventilated room over a drug store costs nothing to be sure, but it is worth less. It has two insuperable disadvantages—patients dislike to visit it, and the doctor himself finds it so unattrac-

tive that he spends all the time he can elsewhere. A couple of hours in the waiting room among the dusty magazines and faded curtains sitting in an uncomfortable dilapidated chair will make a sick man feel very close to his Maker. Such an office must surely be put on the liability side of the ledger. Of even more importance is the equipment. Instruments should have the appearance of being new and cabinets containing them placed in advantageous positions. Many a young man has increased his practice by a little needless display of his outfit to the admiring gaze of a talkative patient. Those mechanical aids to diagnosis and treatment should be purchased that are needed frequently, and with the use of which the physician is thoroughly familiar. A proctoscope, otoscope, and ophthalmoscope should always be included. In connection with the office a small laboratory is most desirable. The doctor makes his own tests. If he is too busy for this then he should be making enough money to hire a technician. An additional charge should be made for every test and these charges collected. An outline of these procedures and appropriate charges is as follows:

Physical examination	\$ 3.00
Complete blood count	5.00
Wassermann	5.00
Blood smears for malaria	3.00
Widal	2.00
Urinalysis	1.50
Smears for tuberculosis	3.00
Gastric analysis	5.00
Exam. stools	2.00
Gall bladder drainage	10.00



I see no logic in the complaint that most patients cannot pay such a bill. They will get the money if they feel they are getting its worth in service. How many of us have had supposed indigents present a chiropractor with fifty dollars in advance for a series of adjustments? If the bill is obviously beyond the patient's means we can always make concessions, but in doing so do not establish a precedent of cutting fees. Say, "Mr. A., your bill is \$50.00 and I cannot reduce it. However, if you are unable to pay it all give me \$25.00. If you ever get the rest I expect you to pay it, if not, then I shall not expect it."

Regular office hours are most desirable. In this fast age people seem to have very little time for anything and one must admit that after the first hour a seat in the waiting room gets very uncomfortable. The ideal way is to work by appointment but this is beyond the destiny of the family doctor. However, office hours can be observed with a fair degree of punctuality, and their importance justifies the extra effort involved. A good office nurse is invaluable. In the doctor's absence she takes care of all minor injuries and treatments, gives telephone consultations, and more important still, keeps track of her lord. At all times she should be able to reach him by telephone. Last but not least, she acts as a buffer between him and the anxious mother who is in a hurry. A mustard plaster, tepid bath, soda water or aspirin will calm the troubled waters until the doctor can get there. She must certainly be numbered among the assets, increasing both usefulness and income.

#### SALESMANSHIP

Salesmanship has been rarely mentioned in connection with the practice of medicine. At first glance it might seem to diminish the dignity and prestige of our profession. Yet a good doctor must be a good salesman. It would seem that he is at an advantage because he sells service that his customer needs badly, often desperately, but those who have attempted to coax an obstinate hoary headed "turner of the sod" into having an appendix removed know that it is no easy job. Indeed some highly intelligent people follow their own counsel when the question of operative procedure comes up, and all too fre-

quently a life is lost because the doctor failed to "sell" the patient a much needed operation. Here more than elsewhere his reputation is of supreme importance. One who is known to be expert in diagnosis, conscientious and honest, usually gets results from a simple straightforward statement of what the trouble is and what needs to be done. He does not try to cajole, exaggerate, and threaten with dire consequences, but kindly, sympathetically and firmly his advice is pushed home. How wonderful it would be if we could trade a couple of dozen self elevating monocular victims of the "furor operandi" for one such man.

In days gone by the public seldom questioned the diagnosis. "Bilious fever," "gastric fever," and "torpid liver," were accepted without question or explanation and the medicine prescribed was regarded as more or less a panacea. Supreme confidence radiated from the faces of the patient and his loved ones. It is different now. Physiology and hygiene are taught in high schools and colleges, question and answer columns on health problems are found in all newspapers, health officers carry on unrelenting educational campaigns, and the various cults and quacks deluge the public with their bizarre ideas, with the result that the average man has, or thinks he has, a very good notion of what ails him. He wants his diagnosis explained in the minutest detail and the pharmacology of the prescription he has received is of surpassing interest to him. This, coupled with the lamentable fact that there do exist a few practitioners who deliberately mislead to further their own ends, creates an air of skepticism among the laity, that is hard to overcome. Before attempting to convince a patient be convinced yourself. To this end a painstaking examination, complete in every detail, with consultation if necessary is of the utmost importance. Most of us are by nature given to indecision and when diagnosis must be reached by inductive reasoning the doubts in our minds are easily conveyed to others. A vacillating opinion must never be held or given, for once the patient feels that there is some doubt about his case, he begins to adjust his armor of resistance and look for avenues of escape. The advice given should be as concise as possible. Verbosity is a failing of many physicians, for few of us talk

well. Rev. John Ward, rector at Stratford in Shakespeare's day, divided physicians into four classes, "First, those that can talk but do nothing; secondly, some that can do but not talk; third, some that can both do and talk; fourthly, some that can neither do nor talk and these get the most money." Avoid always any argument. A wordy dissertation on the whys and wherefores is not understood by the patient and he is apt to get the impression (not always incorrect) that the doctor is trying to convince himself.

#### BENEFITS OF CONSULTATION

There are times when every physician needs consultation. Human capacity is limited and the Pierian spring of medical knowledge flows on with ever-increasing volume. The brain of no man is capable of assimilating all that is known about the healing art, and when one considers the limited amount of time available for study by the family doctor it is surprising that he knows as much as he does. Cabot's estimate that only 60 per cent of the diagnoses in the Massachusetts General Hospital are correct should make one feel very humble and thankful that nature takes care of so many mistakes. Still there are physicians who would have themselves regarded as infallible and not only fail to suggest consultation but become offended when the patient demands it. Their attitude is that such action is a reflection on their knowledge and skill. "The trouble is not that they do not know, but that they know not that they do not know." Whenever I come in contact with such egotism and self-sufficiency there comes to my mind the wise counsel of Marcus Aurelius—

"Be not ashamed to be helped; for it is thy business to do thy duty like a soldier in the assault on a town. How then if being lame thou canst not mount up on the battlement alone but with the help of another it is possible?"

A judicious measure of pride in one's own ability is pardonable, perhaps at times commendable, but when it approaches conceit it must not be tolerated. The goal is the recovery of the patient, not the aggrandizement of the doctor. I know some men who never have consultation unless the patient or his family requests it, and they submit then only because they know that refusal will lead to

their dismissal. They are a menace to the public and a disgrace to the profession they represent. Very often conscientious doctors are tardy in having consultation, not through wilful neglect but because they underestimate the gravity of the situation. There are two criteria by which one may determine when consultation is in order. First, when the diagnosis is not entirely clear, or the treatment disappointing in its effect. And second, when intuition indicates that the patient or family is getting anxious and dissatisfied. In the former instance neglect may be harmful to both the patient and physician; in the latter the physician alone may be affected adversely, but in either condition wisdom will dictate that a consultant be called. Aside from the material gain and increased usefulness that comes from having intelligent consultation, there is the joy and satisfaction of having a colleague, a brother, to share in the anxiety and responsibility of a difficult case. We get new ideas from him and by discussion clarify our own, and together we mount "up on the battlement."

#### BUSINESS ABILITY

The keystone to financial success in anything is business ability. There are two kinds, congenital and acquired. Some fortunate souls have inherited that instinctive sense of values that is so essential in the business world. Others must acquire it by diligent study and long experience, by a process of trial and error. Strictly speaking, the practice of medicine has never been regarded as a business either by the profession or laity. Rather it is considered a vocation and lines of distinction favor the doctor socially but not financially, for many people feel that what they give the preacher and the doctor is a contribution rather than a payment. Such an attitude on the part of the general public, passively submitted to by the medical profession, more than anything else accounts for the fact that in 1925 the average yearly income of physicians was something under a thousand dollars.

Everyone aspires to future freedom from financial worries. Money may not bring happiness but it pays expenses while we are looking for it. One owes it to himself, his family, and community to acquire a comfortable portion of this world's goods while he

is young and active so that his declining years may not be disturbed by the wolf of poverty. No man loses the respect of his patients by charging and collecting a reasonable fee for his service, *provided he has rendered service*. A patient complaining of "stomach trouble" who pays fifty cents for a prescription for some proprietary preparation, given with no preliminary examination whatever, has been overcharged. He has received no service. Eventually he will pay someone else twenty-five dollars for a proper diagnosis and appropriate advice. Every doctor should strive to picture himself in the mind of the public as one who renders service and demands pay for it. It is true that frequent and intimate contact with sickness and poverty tends to overdevelop our centers of sympathy and begets a certain laxity in our methods of dealing with those who are well-to-do. Someone said of a great financial genius, "He has a soft heart but a hard head." We should be careful that our leniency is not too often softness of the head rather than of the heart.

Before taking charge of a long continued illness such as typhoid fever, or when being engaged to handle an obstetrical case always take the head of the house into your private office for a business talk. Give him as accurate an idea as possible what the cost will be, and impress him that it must be paid. If he is without funds at the time have him name a definite date for settlement and see him on that date, or if his honesty is questionable take a note and mortgage and have it properly recorded. You will seldom have to foreclose. Many will be unable to pay the full amount in a lump sum and it becomes necessary to collect in installments. Again a definite understanding is essential. A convenient way is to have him name what he can pay every Saturday and then employ a reliable collector to see that the promise is fulfilled. At all times, and with rich and poor, it is best to collect a bill in full at the conclusion of an illness. "Strike while the heart is grateful" is a motto given me by an older and wiser colleague, and it is worth passing on.

Accurate bookkeeping is as important in the practice of medicine as it is in other lines of business. Some time ago a physician sued an estate for his bill. The suit was contested and the attorneys for the defense made much

over the fact that the books offered as evidence by him showed that he had catheterized the deceased several times after his death. The work was done, but the dates were wrong. Most doctors are sloppy bookkeepers. It is better to employ some one to do it for you. Sometimes one has the fortune to get a combination nurse and bookkeeper, or if this is impossible someone in the neighborhood who is qualified will give a few hours a week to the work at a small cost. Itemized statements should be mailed the first of every month, and every three months the laggards should be stimulated by a telephone call or a visit by the collector. As the year draws to a close advance notices ought to be sent out that all accounts must be paid before the New Year and again the delinquents are visited by the collector. This procedure is time-consuming but it is efficacious. A few will be left who refuse to pay and suit should be entered against them without hesitation.

#### THE RETAIL MERCHANTS CREDIT BUREAU

The Retail Merchants Credit Bureau was organized by merchants for protection from dishonest debtors. It has been found so valuable that practically every merchant of consequence is a member, and some of the leading ones of my own town say that without it they would be compelled to refuse credit to anyone. Recently the physicians in our town have been invited to join this bureau. The dues are twenty-five dollars per year. For this sum the bureau furnishes its members with monthly lists of judgments, suits, mortgages, etc., changes of address and unpaid bills. By request they will look up the record of anyone and investigate an applicant for credit. On the collection end they write a series of letters to each delinquent and if he refuses to pay, remove his name from the good credit list, thus impairing his standing with other merchants and doctors who belong to the bureau. If these measures fail and the creditor requests it suit will be entered against the debtor. The bureau is known among the laity and wields a tremendous influence. Perhaps one of its greatest accomplishments is that it prevents a "dead beat" from moving his account from one store to another and leaving behind a string of unpaid bills. Unfortunately the medical profession still puts up with this



quite prevalent nuisance.

I believe that this bureau will do much to solve the collection problem for the family physician. The idea is sound; it has been thoroughly tested, and has proven its worth. Obviously the more members it has the more efficient it will be. Not much practical benefit will accrue if only a few physicians here and there are members, but if they will join by groups, or if a whole county society will join at once it is certain to become as valuable to the medical profession as it now is to the merchants.

#### KEEPING UP-TO-DATE

"The watchword of our profession is work," said Osler. Work plus thought means progress. For the last half century almost each passing day has seen something of importance added to our knowledge of the science of medicine.

We have progressed, are progressing, and as newer methods and ideas are advanced the old must be discarded. There devolves upon the family physician the gigantic duty of keeping up-to-date. Perhaps upon it more than anything else his usefulness and income depend and yet it is so frequently neglected. The usual excuse is "too busy," and that is no excuse at all. The man who is always busy can afford to leave his practice; it is the beginner with time hanging heavy on his hands who must stay at home. A most pitiful object is a man in his mental prime, fifty years of age, using methods that should have been discarded 20 years ago, and watching his practice gradually dwindle away, while he complains of the unethical conduct of the younger men. To the laity he is not old, but far worse he is "old fashioned." And what a vast difference there is! "Some doctors make the same mistake for thirty years and call it experience," said Jacobi. A doctor who after 20 years of practice is not a more alert diagnostician, a more resourceful therapist, and a more skillful technician than the recently graduated intern is a signal failure. What an inspiration are men like Barker and Cabot! Older in years but not in thought save only as are steadies and ripens it. Happy warriors who "from well to better daily self surpass." Not only have they kept up with

progress; they have always set the pace.

Being up-to-date is like being punctual, it is a habit and one that can be acquired with very little effort. He who would become its slave must do three things—read, attend medical meetings and attend clinics. Contrary to popular idea it takes very little reading to keep one abreast of the times. Long and technical monographs detailing experiments and theories are all right for a select few; but the man doing general medicine deals in facts. Therefore, most medical papers should be read backwards. Begin with the conclusion or summary, then analyze it. Does it announce a new discovery or method? Is it practical and useful? If not, the summary is enough to read; but, if it is of value, study the whole article, make notes especially with reference to technic, dosage, etc., and finally make it yours forever by putting it into practice at your earliest opportunity. What to read is a problem. "Let the old men read new books; the young men the journals and old books," said Osler. Journals are indispensable, containing new ideas and facts that may not be found in books for several years. However, since expense forbids subscription to many of them the utmost care should be used in their selection. The official organ of one's state society should come first if it is worth while. I am utterly opposed to subscribing to it from a sense of loyalty. A medical journal that is not valuable for what it contains has no excuse for existence. The *Journal of the A. M. A.*, of course, should be taken. Its special articles are supposed to be selected for their value to the family doctor and it also contains abstracts from most of the important domestic and foreign journals. The official organ of an active, growing society embracing one's own territory is often eminently pleasing and instructive. Such is *Southern Medicine and Surgery*, the publication of the Tri-State Medical Society of Virginia and the Carolinas. One or two periodicals on the specialties in which one is most interested may complete the list.

Another essential habit worthy of the most careful cultivation is that of attending society meetings. Two ends are achieved; one knows and becomes known in the profession, and absorbs a considerable amount of youthful enthusiasm along with new ideas. The county society should above all receive the

heartiest support and co-operation. Here one meets his colleagues in intimate and friendly discussion not only of scientific subjects but of those problems and conditions peculiar to the county. The opportunity is wonderful for the cultivation of co-operation and team work, and for the adjustment of various little professional differences that are sure to arise. For the same reasons on a larger scale the state societies are deserving of regular attendance. Each state can boast of a number of men who have achieved a certain degree of eminence and from whom something can be learned. A society that embraces several adjoining states is also to be commended. During its sessions one is certain to meet and hear several speakers of note. Programs are always interesting and instructive and the opportunity is offered of becoming known beyond the bounds of the home state, a not undesirable achievement. For in these days of quick transportation news travels fast and it is surprising how closely estimates of a doctor by the profession and by the laity tally. Regular attendance at these meetings cannot be urged too strongly. The time consumed will scarcely total a week, the expense is small and the reward is great. Last but not least, comes the American Medical Association, which represents the whole medical profession of this country. True it is bulky and as individuals we are apt to feel lost at its meetings. Nevertheless, we see and hear our most eminent men with whose fame and pen we have long been familiar, and we are uplifted and inspired by our contact with them. Regular attendance entails more expense and loss of time from work but it is time well spent.

Once every five years it is necessary to devote from three to six months attending the leading clinics of this and other countries. "A quinquennial brain-dusting, reinvigoration and reintegration," is obtained by watching the masters at work. It may be that much of what we read in journals and hear at society meetings is theory, but in the clinics we get practice. A regular visitor to them will never suffer the humiliation of being called "old-fashioned" though he live to be as old as Methuselah.

#### FELLOWSHIP WITH COLLEAGUES ..

Perhaps one of the greatest stumbling

blocks in the road of medical progress is lack of fellowship among physicians. Especially is this perceptible in villages and smaller towns where each physician knows the other's patients as well as his own. It is sorrowful to reflect that I know of no town ranging in population from three to ten thousand which does not harbor some discord among members of the profession. As a town develops into a city harmony as a rule prevails except for bickerings among cliques and lesser lights. The laity are well aware of this and it detracts from our dignity and lessens confidence no little bit. Said a prominent layman who was preparing to endow a hospital, "I may say that one of the distressing bewilderments of the layman who desires the working out of a broad plan is the bitterness of professional jealousy \* \* \* \* \* and the reflections which are cast on one another as belonging to that clique, which makes it exceedingly difficult for the laymen to understand what way there is out of these squabbles." It is my belief that the chief cause is ignorance of medical ethics or differences in its interpretation. Just as the Protestant church has its fundamentalists and modernists, so our profession has those who interpret our system of ethics strictly and literally, and those who are less orthodox in their views. Both may be conscientious.

A fat bone of contention is "advertising." Ethics strictly forbids it, but there are two ways of obeying any law—in letter, and in spirit. It seems to me that the spirit of the rule against advertising is being more and more ignored. A most popular and prevalent way of evasion is by organizing a "clinic." Two or three doctors get together and build a small hospital in which they have their offices. The whole is known as the "—— Clinic." The stage for effective propaganda is now set. Admissions to and from it are given to the newspapers. Accidents and foreign body cases are featured with glaring headlines, and at the end of the year the annual report of the "—— Clinic" shows a surprisingly low mortality. I have reliable information that at least one well known clinic in this country has a publicity department and employs advertising experts. Of late years the younger men have some very poor examples to follow since not a few of the most able and renowned members of the

American profession are blatant advertisers. How do they get by with it? Ah!

"Treason doth never prosper: what's the reason?"

Why, if it prosper, none dares call it treason."

Because the majority do not advertise those who do profit doubly. Naturally the man who is ethical in spirit is resentful and says so in plain language.

Another prolific cause of discord is the wagging tongue, and both the physician and layman are guilty. A few misanthropic souls deliberately in plain English malign and vilify their colleagues. But most of the dirty work is done indirectly. A grimace, a wink or frown, and a few words of belittlement when a colleague's name is mentioned is even more effective. Some patients take delight in telling tales and making trouble between doctors. They seize the slightest word of criticism, magnify and vivify it and straight-

way pass it on. The only safe rule is to guard well our own erring tongues and refuse to listen to any story of disparagement involving a colleague.

In the practice of medicine there are many things that tax one's patience, and to a tired and harassed physician trifles often loom large. It takes a good philosopher to keep an even keel through all of the befalling adversities that go to make up a lifetime in this profession. The cultivation of a better and friendlier acquaintance with competitors, proper allowance for the frailties and failures of human nature, and above all the application of the Golden Rule will do much to increase the usefulness and concord of our efforts, for

"Life is too short to waste  
In critic peep or cynic bark,  
Quarrel or reprimand:  
'Twill soon be dark."

---

DR. F. M. HORSLEY, Arrington, Va.

In the solution of any problem a thorough knowledge of facts concerning the condition is necessary. Then let us dwell awhile on the functions and meaning of a family doctor. Life in its numerous relations, influences and adjustments is exceedingly intricate, and the physical can not be rightly treated, diseases and malfunctions relieved without due understanding and consideration of the mental, moral and spiritual forces concerned in the individual case.

The family, though altered by the present modes of living, is still the unit and foundation of a community and the nation. It is a distinct organized whole or organ upon which a country is dependent, and from which springs the quality and character of a nation. The family doctor in his practice studies his patient in connection with his home life, influences, environment and temperament, and he alone has the opportunity to do this. The trend of present medical effort is along the lines of preventive medicine. The incipency of physical troubles are more easily found out and corrected by studying a patient in his home life, with his individual relations. For troubles one would have a hesitancy and dread of revealing to a stranger, it is easy to relate to a physician known in your home,

intimate with its secrets, and one who has been a very present help and confidant in the great crises of life, such as birth and death.

With what is known in applied medicine at the present of the psychic, moral and spiritual side of man in relation to his physical ills, it is realized that these resemble much the biologic influences of the living tissues in the human body. These forces in some measure at least should be considered and weighed in making a diagnosis and applying treatment; and who has a better opportunity to make use of such knowledge than the family physician? In the treatment of a patient as an individual and a whole the family doctor has a great advantage due to the character of work he does and conditions connected with this work. Many diseases commence as functional troubles. Worry, thwarted ambition, wrong occupation, bad habits, lack of suitable expression, uncongenial companionship, and many such things may play a part in physical disease or trouble, and if such things are left uncorrected may change the condition from a functional to a pathologic. It is the part of the family doctor more often than any other to correct troubles in a functional state, and to do this, by experience and



study, he becomes peculiarly adjusted. Using the figure of human physiology, the family physician is as the digestive apparatus, supplying needed strength to all other departments of medicine. The specialists are the various organs or glands and research stands for the intellect, but all of these are connected with and depend upon general practice. Specialists can only do their best work when closely connected with general medicine, and the supply of patients from the public should far better pass through the hands of a general practitioner and have his advice before going to a specialist. Then, too, the latter can do better and more complete work, realizing more accurately the final results of his efforts by keeping in close touch with his patient through the observation of his family physician who referred the case. Research and scientific medicine is of no use to humanity unless applied, and the great problems to be confronted in medicine are best known by what the clinician, or general practitioner show are needed from the results or lack of results in their efforts.

Living things in normal growth adjust each part to the other in perfect apposition, co-operative function being complete as the parts or organs increase in size.

A community consists of human beings of varied types and interests, but there are thousands of things in common and in order that it be a community deriving all the benefits that life can give, there should be the same coaptation, harmony of interest and united effort in its life as there exists in the workings of the human body, so complete in all its adjustments of effort and expression, each cell, gland and organ doing its part in perfect unison. Our counties, states and nation are made up of many communities. In the growth of civilization, education and movements of progress it is hard to have a broad conception and not allow the lead of some great truth to obliterate another just as important; or let our vision be filled with some great object, so that we fail to realize there is room in the universe for others.

The composite working of many interests in living forces tend to the usefulness and beauty of the whole. In solving problems, or adjustment of community interest living things themselves are our great teachers. Is the family doctor a real unit or organ of the

body politic in a community? If so then the state should do all it can to aid and abet him from the public's viewpoint. Can the medical profession do without the country physician? If it can not in its greatest relief to humanity, then it should co-operate with and encourage him.

Can the people in the country without great harm do without a local or family physician? Then let them appreciate his work, remembering with all the great advantages of specialist, hospital and medical clinics, that an up-to-date conscientious family physician earnest in his profession means much that the above can not give to the relief of human suffering. Educate the public to see such a need, that it may be willing to pay sufficiently for country medical services which will mean at least a fair living to the physician. In the growth of medical science and its many useful and attractive phases, interest in the work of specialists, clinics, etc., and research work has become all absorbing, so that it is the desire and purpose of most medical men to test out or analyze a case thoroughly, and this too is usually the public's desire.

But what does this thorough overhauling mean, beside emptying the pocketbook. It means much, 'tis true, to many; but if the expense that a great number can not stand, can be eliminated, if the solution of the trouble can be rendered by simple means in hands of a conscientious man of judgment practicing medicine, is not the public a gainer? Not decrying in the least special knowledge and means of precision; yet when all these are used how little is found out about nerve dysfunction or disease, faulty metabolism, cell chemistry and biologic influences in the living organism; so why call the thorough examination of a patient by means of all known ways of diagnosis, *thorough*. It is so only comparatively speaking. There are many who get splendid results from well organized medical treatment, or men of wide experience, and these means are well advertised by their numerous applicants; but there are not infrequent difficult cases that go unnoticed cured by the interest and hard work of some unknown practitioner. The great question in the practice of medicine is the study, interest and effort to apply knowledge in giving human relief. A country doctor has the time to study his cases, he is inter-

ested in them not only as patients but often still more as friends and his task often to reach them stimulates his effort. Again to the suffering and distress of thousands the hospital can not reach, the country physician administers with remarkable degree of success, considering his handicaps. In fact these very handicaps develop judgment, resourcefulness and self reliance, that nothing else can give, giving a keen perception of the true value of symptoms. The fact that the family physician is looked to for advice along many lines of medicine makes him tend to a better balanced view of disease than a specialist, who is more or less narrowed by seeing troubles from one viewpoint. Outside of medicine he is often taken as an authority and leader. These things themselves develop a broadness and individuality that enables him to see the patient from many angles that another doctor might not observe.

There has been much written about the hardships, and noble response to relief of suffering, by the country doctor, and this I think has not been overdone. Hardships themselves tend to develop character and character is an asset that is not enough stressed in medical practice. To know the inner secrets of human life perhaps better than any other, to be the confidant in things that mean most to men, and instructor in that which might make or ruin life, to influence as perhaps no one else can, the lives you come in contact with in your work, is a noble function and high calling. Recently prominent authorities have named cases of nervous disorder caused by worry and suppressed trouble. These cases in every way resemble acute surgical conditions. Fortunately for the patients there was some delay in recommending an operation, and the causes for worry in these instances were analyzed and made known to the patients so a complete cure resulted. How often the cheering comfort of the interested and trusted friend, a physician, has dispelled fear and relieved suffering. How we do not know, and yet unknown to the patient and doctor often psychotherapeutic influences from the latter has aided or corrected the trouble.

Picture a mother shut off from medical help by long distance, darkness, storm and muddy roads, her child becomes restless, fe-

verish, cries out with pain, perhaps delirious or a convulsion adding to her terror. You may imagine the relief and comfort a trusted physician gives at such a time, by his response to this call. The relief of bodily suffering and reassurance is not all, but most of all the relief of the anguish to the mother's mind and of that to the family concerned. Is this not worth while?

So through personal interest, and in connection with referred work, let the surgeon and other specialists work with the aid of the family physician, by expressions of commendation, excusing errors made that were difficult of avoidance under the conditions. Let the profession at large realize more fully the importance of the general practitioner and the less spectacular field of general practice especially in the country will function more perfectly in the great effort of medical science to build up health and be the blessing to humanity it should. Then to increase his usefulness let the family doctor make known his functions through medical magazines and societies *and an organization of their own to effect this end*. An effort should be made to install in the medical university and college courses lectures on the specialties of medicine stating what these are, their advantages, need and breadth of field. In this course true information should be given concerning the general practitioner. Such a course would enable the medical student to better select his life's work, and to know the need and possibilities in general practice. The states should be urged through their health boards to work out means by which they can best help the public by helping the country doctor, working with and through him.

Every country doctor should do all in his power to obtain better roads; for this is the solution to many problems in the country practice. I believe if our profession would endeavor to educate the public along such lines as named, that poor pay and a limited outlook for the family physician will automatically correct themselves, and the field of general practice will come to its own, as the family doctor would be recognized as one of the most essential factors in the field of medicine.

---

DR. E. S. BULLUCK, Wilmington, N. C.

The general practitioner already knows what is required to develop his skill and incidentally increase his income. If these are true incentives, his reactions will be such that the objects will be attained. If inertia be his fault and complacency his satisfaction, his status will remain unchanged. His elevation depends upon whether he really wants it or only thinks and says he does.

The public is already paying him all that it thinks his service is worth. For greater compensation he must develop his ability and improve the quality and actual value of his work. It should then be presented to the public with that refinement and finish that converts the efforts of labor into a work of art.

The physician should be teachable, modest, genial, gracious, never on the defensive. He should be as discreet, as he claims to be, and thinks he is, and so guard his habits that he will not gain the reputation of having more sense when drunk than most doctors have when sober. He should be actively interested in social affairs and progressive movements—being tolerant of those projects to which he is not committed, avoiding scrupulously everything that borders on politics. Professional conflicts should be settled by conceding the whole of the contention. He will then be considered magnanimous, fair, and ethical, an essential reputation bought at trivial cost. The work of a colleague should never be condemned with silence or damned with faint praise.

The physician should join all of the components of the American Medical Association and such other societies as meet within his state. He should contribute to their programs and submit his papers for publication. Subscription should be made to the medical journal of his own state, a publication devoted to the branch in which he is most interested, and the *Journal of the American Medical Association*. He should glance through the editorials and advertisements, read one-third of the articles, the conclusions of another third and disregard the remainder as unsuited to his purposes. These journals should be filed on a shelf, the last one on top, until they are six months high. This constitutes a library

of the most modern medicine.

Once a year, regardless of obstetrical cases, he should have a vacation of ten days, this time to be spent in a city, access to be had to a large hospital or post-graduate school; the evenings to be devoted to recreation. He should review the fundamentals—atomy, physiology and pathology—and at present give particular attention to endocrines, nervous disorders, blood chemistry and intravenous medication. Each year's text books would make the proper additions to his library. Returning home he should use consultants more frequently, keep better case records, and strive to make more accurate diagnoses. Diagnostic assistance offered by the state's laboratory and hospitals for the insane, orthopedic and tubercular should be freely utilized. The x-ray and laboratory facilities of nearby hospitals should be an almost regular part of his examinations. Patients not inclined to permit adequate laboratory study should have the responsibility for its absence rest squarely upon them. Side-walk advice should be withheld and each case magnified by the completeness of examination. Whenever possible, patients should be induced to go to his office. This permits more careful investigation, more accurate diagnosis, and more scientific treatment.

The doctor represents and conserves his interests when he accompanies a patient to a consultant or hospital. The consultant should not be expected to collect for this valuable assistance, either openly or by subterfuge. If this personal service is requested or required, the physician should look his patient straight in the eye and charge him like a plumber.

Regardless of personal qualifications, the type of work that is entitled to higher compensation cannot be rendered without an adequately equipped and well-conducted work-shop. The doctor who does not spend twenty-five per cent of his gross income in his office is making too much profit on his patients and is charging too much for the grade of service he is prepared to render. With the office fund, he should clean and paint, redecorate and furnish his office every three years, subjecting everything to Darwin's



law of survival. A woman assistant should be employed to do the routine work for which he has neither time nor inclination. She can be taught to entertain patients, give treatments, use the typewriter, keep accounts, do routine laboratory work, pacify the patients he has offended, and a thousand other things. A small laboratory equipped for ordinary work should be developed. An electric diagnostic set and atomizer should be installed for better treatment of upper respiratory infections. A complete line of fracture splints and devices should go on the shelves. There should be a large variety of drugs, solutions and surgical supplies, so that he will not have to compromise in the treatment of patients. Two glasses on his desk, one with clean, the other with used thermometers, will show that he believes in the germ theory. A bowl and stand for antiseptic solution, and a small pressure sterilizer will further assure the patient. Time spent in proper sterilization of instruments, and in the personal application of treatments with drugs, massage and cauteries, lamps and electro-therapeutic apparatus, is most profitably spent.

A small gas machine will take the horror out of fracture manipulations and minor operations. Instruments and equipment adapted to the field of his greatest interest should be added as rapidly as the office allowance will permit.

Every office should use a McCaskey physician system. This permits the physician to charge for the visit, make clinical notes, and retain a carbon of his prescriptions,

while he listens to platitudes. Slipped into a cabinet at the office, the monthly statements are made from the same blank. No more writing, no posting, all accounts up to date. The assistant makes out the statements, when paid the blank is transferred to another drawer and becomes a permanent case record.

A minimum charge should be adopted for each service, all visits recorded, charges never "lumped," gifts or deductions to be made later. Monthly statements by someone else, if not paid, to be continued. It is worth 3 cents a month not to be called again and someone will finally pay more than the postage required. Never turn accounts over to a collecting agency, and allow it to send insulting letters that he himself would not dare to write. Avoid the familiarity, that will make people offended, that he should expect them to pay, under the circumstances.

This but outlines the requirements and improvements that a physician may develop in himself and his equipment, by persistency in detail, personal application and ploughing back into the business a reasonable part of its profits. It is easier to convince than to deceive the public. The doctor who deserves a higher price for his wares can only attain it by making them more valuable. Year by year he must use more precious and less base metal until they become "sterling." Goods of this stamp have always sold high. If he does not approach perfection, he should be satisfied with profits that are just as thin as the plate he sells.

---

#### DR. HAROLD GLASCOCK, Raleigh, N. C.

If I were practicing in the country I would select as convenient an office as possible, and furnish it more handsomely than I would if I were going to practice in the city. I would equip my treating room for modern practice, and I would conduct my practice the same way as I would if I were engaged in a general practice in the city. I would employ a trained nurse and place her in charge of the office, and I would maintain office hours from one to three p. m.

In the morning hours I would make calls, and while I was doing this, the nurse would be receiving calls for me to make in the

afternoon, and taking care of all little emergencies that might come in; she would be making blood counts and urinalyses and doing other laboratory work I might teach her to do; she would give ultraviolet and infra-red ray treatments, take blood pressures, and make preliminary notes on the history of the cases who were waiting, and make engagements for others to see me on the morrow. She would also sterilize the towels, cotton, gauze, sheets, and instruments for the obstetrical and emergency bag that I would always take with me on my rounds.

Whenever on my rounds I reached a con-

venient telephone I would call the nurse and receive the calls that would possibly be within that immediate vicinity so that I would not have to retrace my steps. I would give her instructions about such patients that might be in the office waiting for me. When I would get to the office I would have this nurse assist me in whatever cases required her help; she could give my anesthetics, assist in gynecological examinations and treatments, also minor operations, and prepare the bags for the afternoon visits.

This nurse would also keep my books and send out monthly statements; she would collect specimens for widals, wassermanns, non-protein nitrogens, and such others that I would send to the city or state laboratory, and check on their return. I feel quite sure that her assistance would enhance my practice, my income and my professional standing.

I would have three bags, one for drugs, one for diagnostic instruments, including a microscope and equipment for blood counting and bedside urinalyses, and taking cultures, etc. Many of the laboratory tests, if the paraphernalia is properly systematized, can be done at the bedside. The third bag would contain sterile surgical material for accidents and obstetrical cases.

It would be but little trouble after I had condensed the plans and material for such work, and it would not take any longer to do these things at the bedside than it used to in the olden days when the doctor "rolled his pills" at the bedside. Should I encounter a difficult obstetrical case I would take the nurse with me; she could be of great assistance.

I would encourage office work and with my splendid equipment and nurse, I would be able to take care of practically every kind of case except the major operative cases. With her help I would be able to do practically all surgery that would not require going to bed after operation. I would x-ray and treat all fractures that would not require hospital treatment.

I would insist on all office work being cash and encourage cash for all work done; I would give practically the same service in the country that a general practitioner gives in the city; I would encourage every family in my community to lay aside an emergency fund of not less than two hundred (\$200.00) dollars to be used in case of distress, accident or illness, and they would soon realize the security that the plan would afford and would encourage their neighbors to do likewise. I would teach the people that they should pay for services rendered, and try to make them understand that the public welfare and the state should administer to their charities, and not leave it all to physicians as in olden times.

The equipment would not cost any more<sup>\*</sup> in the country than it would cost in the city and nearly every cross-roads now has electricity, and with electricity it is possible for the same equipment to be installed in the country as in the city. I would hold my country people in the country and, when I gave them modern service in the country, they would not leave me for parts unknown. Such equipment would make my practice almost as convenient and easy to handle in the rural district as my colleagues enjoy in the city.

---

DR. ALEXANDER MCLEOD, Glen Allen, Va.

I have practiced medicine for fourteen years. It has been my desire to increase both my usefulness and my income all the time. My ideas have changed. I have changed my methods. I will try to outline in this paper how I feel towards my practice and how I conduct it at this time.

The family doctor's usefulness and his income usually travel along parallel lines. The more useful he is the more his income should be. The less useful he is, the less his income

will be. He should collect an adequate amount for his services to enable him to finance his practice properly, give his family the advantages they should have and save something for the rainy day.

He should insure both his income and his life to free his mind from the worry of lingering illness or an untimely death. This money should come from his practice. Later, as he accumulates, he will derive revenue from his investments.

The family doctor is the most unbusiness-like in his relation to his patients of any of the practitioners. Though he favors his patients at the time, this in turn reacts against him in the long run and he not only loses the extra money due him, but prestige and practice as well, by his loose business methods. I mean by this that he should charge and collect a reasonable fee for all of his services from those who are able to pay, that he should graduate his charges according to the ability to pay in the individual case. Many of us can buy things of value our patients have to sell us on account and resell to advantage. We can have them work out accounts. I have six carpenters and painters working for me now, accepting half their wages in cash, the other half credited to them to be used to pay me when they are sick.

The doctor is often the last creditor to be paid. It is his own fault. He should impress on his patients that his bill is just as important as any they owe. As disagreeable as it is, we have to make a living and must collect our bills to do so. There is a commercial side as well as a professional side.

The family doctor, due to the nature of his work and because the most of his patients are among the poor and middle classes, is not able to get as large fees as the specialist. His expenses are less than the specialist's. The average practitioner hasn't enough rich people in his territory to make a living from. In my experience the richer they are, the more prone they are to run to the specialist and to the hospital. The better-to-do class have less sickness as a rule.

The family doctor has to depend on volume of work, a good system of filing his accounts and a good method of collection for an income, rather than larger fees from fewer patients. He will have to systematize his practice and work efficiently so as not to neglect any part of it.

There are certain qualifications the family doctor should have. Just like every building has, if it stands, a proper foundation to support it, the doctor must be an honest man to be of greatest benefit in the community. In all his dealings with all mankind he should be above reproach. Is there any other similar condition where the doctor is the judge, the jury, the all, so to speak, in doing; and directing what shall be done for the sick and

he, himself, deriving financial gain from what is done and what he advises? Is there any other person in the position to do the amount of good and wield the amount of influence as the family doctor? We are in close, intimate association with our patients. We are with them in their joys, trials and tribulations, at their births and deaths. We are very often advisers for them in other than medical conditions. What a chance, an opportunity to increase our usefulness!

We should keep up to date in all matters pertaining to our work. It is a big task to measure up to the responsibilities of the family doctor. His influence and prestige is on the wane. If we don't take advantage of our unusual position and increase our usefulness and our income, it is our own fault. There is both a human side and a commercial side to our work. Of course, some doctors, like any others, have "tough breaks," but the people for the most part are reasonably fair. In order to get for ourselves honor and gain, we must give ourselves. Friendship is based on mutual aid.

We should be kind, considerate, courteous, sympathetic and level-headed; keep in good humor and soft pedal our tempers. We should forget and not repeat gossips or the tragedies of life we come in contact with. We are advisers in family affairs. We should "saw wood" and keep our mouths shut. A lot of doctors are gossips and many people are afraid to tell the doctor their secrets for fear he will tell them. No greater virtue has a doctor, if he keeps silent regarding disagreeable matters, and says not what he should not say.

One should not be offensive about his religion and politics. Don't be a violent partisan, but stand for the right. Take an active part in all things pertaining to the good of the community. Get joy out of your practice and doing for the people. Some of us are for the country, others, the city. One should locate where he is fitted and likes the best to be the most useful.

The family doctor should maintain his office and sufficient equipment in an orderly manner and keep one or two automobiles in a good running condition.

The very nature of the family doctor's work is never ending, very confining and at times nerve-racking. He should take at least



ten days' vacation each year to rest. I go away the last half of August. I leave no one in my place. I let my patients get who they choose when I am away. I can't recall ever having lost a family by doing so. I believe this plan much better than leaving a substitute for various and obvious reasons.

The family doctor should have his home and office together. His house servants can look after his office and telephone. His patients can better reach him and his supplies and equipment is handy. He should adopt office hours and keep them. He should be dependable. One must make his calls promptly and take time to apologize and explain the reason if delayed. The patients should be examined sufficiently to make a diagnosis and a record made at first visit of name, address, charges, diagnosis, what was done for the patient and medicines used. This record should be properly filed at the doctor's office for future reference. Unnecessary visits should not be made but the patient should be seen as often as needed and the patient desires, and keep the patient under supervision until well; else they will take patent medicines and give themselves something to talk about to the doctor's detriment.

The family doctor should advise at birth the proper age for children to be treated preventatively and treat all contacts the same, to such diseases as diphtheria, smallpox, typhoid fever, etc.

If not handy to drug stores, to keep a good supply of most used drugs and supplies will be an advantage.

The family doctor must not neglect the chronic cases or just lump them off to the specialist. He can help most of them and they are a considerable source of revenue. One should not make any rash promises as to cures, and if a diagnosis can't be made with the facilities at hand send them to the hospital or to the specialist for diagnosis. Go with them. You will learn something. The family doctor should know his limitations and he should treat these chronic cases himself.

One should see that the specialist does not work a hardship on his patients by overcharging them, and also see that the patients do not impose on the specialist. See that the specialist, the patient and yourself get a square deal.

Many practitioners are prone to pass along

their cases before they are properly studied and not infrequently these patients are put to an unnecessary expense for conditions that did not need these special things. The hospital and the specialist get credit and money in these cases that the general practitioner should have had he been on the job. The one best way in any labor, business or profession to make more is to earn more, and in my experience, more medical mistakes are made from improper, hasty examinations and diagnoses than from lack of knowledge; so if a fee is charged for an examination, for goodness' sake and your sake be thorough. It is necessary for the family doctor to form affiliations and keep in contact with a good group of specialists and a good hospital. He has all kinds of cases in his practice and for the good of his patients and himself he often must have help, hospitalization, and consultation for them. I arrange and take my hospital cases to the hospital. I stand by them when they are going under the anesthetic. I talk to the surgeon and compare my clinical diagnosis with the surgical findings. I talk to the family representatives at the hospital and reassure them if all is well. I warn them if the skies are cloudy. I charge for my time, services and expense incurred. I also get my patients away from the hospital and under my care as soon as they can be moved with safety.

It is possible to succeed and treat finances properly. Demand in a nice manner cash for single call cases. These are too small to book and are harder to collect than larger accounts, proportionately. Send bills promptly the first of the month. Adopt a good follow-up system for the delinquents. Try and close the larger accounts with a note. Where possible have both man and wife sign note. It is worth while for any doctor near the Morris Plan banks to use their note and method in collecting large bills from salaried people. One should turn over accounts he cannot collect to a lawyer. Collecting agencies have been very disappointing to me.

The family doctor should give his obstetrical cases a cash price and tell them so. If they want time—extend it—charge more and take a note.

Known bad pay patients should be required to pay cash or secure you by note. Look after the worthy sick and the needy, but learn to

say no to the deadbeat.

Venereal cases should be cash.

Insurance examinations and industrial cases are good practice for the family doctor. The rate of pay is about on par with his other work and is sure.

The family doctor should invest his money on advice of his banker or in real estate he knows the value of. He should keep on the lookout for bargains and buy anything he is reasonably sure of making a profit on.

The doctor should not place finances ahead of his profession. He must love his profession and the people he practices for. If he does look on the commercial side only he had best quit medicine and go into business, because I feel that the same amount of time, energy and sacrifice that the average doctor

puts into his practice, if given to business, would be very much more remunerative. I do feel, however, that the family doctor as a whole, in a financial way, as well as along medical lines, has been very lax in looking after his interests. We are entitled to a comfortable living. We should accumulate something for our loved ones in the event of an early death or for our old age. Kind words for the doctor that is dead and gone are all very well, but they do not pay the widow's coal bill or for the children's school books.

After all the family doctor cannot put a commercial value on his work. How can one settle on a financial basis for the relieving of human suffering and the saving of human life? But every laborer is worthy of his hire.



## GOITER DURING PREGNANCY\*

JAS. W. GIBBON, M.D., Charlotte, N. C.

Goiter in women is most prone to develop during puberty, pregnancy, lactation and the menopause. The development of thyroid hypertrophy during pregnancy has long been recognized by the medical profession. In Charpentier's *Cyclopedia of Obstetrics and Gynecology*, the American edition of which was published in 1887, there is a two-page discussion of goiter and its influence on pregnancy. Under treatment he says: "As goiter is generally benign during pregnancy, we should resort to general measures and internal treatment. Forbid the patient to nurse and give iodine." The wisdom of these early observations is proclaimed by the fact that our modern conception of the goiter of pregnancy may be tersely summed up by the same statement that the goiter is benign and the treatment is with iodine. The gland hypertrophy which is so commonly seen during pregnancy, especially in belts where goiter is endemic, is due to a relative iodine insufficiency in the body. There is, on account of the normal physiology of pregnancy, an unusual demand by the tissues for iodine. The thyroid gland, if incapable of meeting this excessive demand, responds by hyperplasia and enlargement. Frequently this iodine deficiency is only temporary, and when the iodine metabolism becomes adjusted, most likely by an increased intake, the hypertrophy of the thyroid disappears. If iodine is not available in adequate quantities, the hyperplasia continues, the gland becomes permanently enlarged and damaged, and more rarely hyperthyroidism may be the ultimate outcome. Thus in districts where goiter is endemic, many obstetricians are giving prophylactic doses of iodine to pregnant women, as advised by Marine.

From our knowledge of physiology, we think of the absorption of sugar and the storage of it as glycogen in the liver to be dispensed to the tissues as needed. We should also think of the thyroid gland acting as a storehouse for iodine—true a converted,

organic form of iodine, but none the less iodine from which storehouse iodine is in turn distributed to the tissues as needed. Marine has shown that the average store of iodine in normal human glands (weighing less than 25 grams) is around 10 to 15 mgm., and the maximum store is around 30 mgm. Pregnancy, by increasing the needs of the tissues for iodine, very rapidly diminishes this store and, unless an adequate iodine intake is supplied to meet this need, insufficiency occurs, the gland undergoes hyperplasia and the development of goiter begins.

The type of goiter associated with pregnancy is most commonly the simple, benign or colloid type, although during the stages of active proliferation there may be, in certain instances, clinical features of hyperthyroidism inaugurated by an iodine deficit in the body. The infrequency of the true toxic forms of goiter during pregnancy is indicated convincingly by the following figures. At the Mayo clinic from 1916 to 1926 there were 5,043 women with exophthalmic goiter examined; in only 32 of these was pregnancy associated. Of 2,185 women having adenomatous goiter with hyperthyroidism, there were only 10 who were pregnant. From an equally large obstetrical clinic, the New York Lying-in hospital, comes the report by Markoe in 1918 that of 100,000 pregnant women only eight appeared to be suffering from hyperthyroidism. The approximation of such figures, one from a large surgical clinic, the other from a great obstetrical clinic, furnishes striking proof of the rarity of toxic goiter in the pregnant woman.

The frequency of colloid goiter during pregnancy varies according to the locality—the condition being, of course, more prevalent in the goiter belts. For example, Davis in Milwaukee, a goiterous region, reports 41 per cent incidence of goiter in his last 520 pregnant patients. In areas such as our own where goiter is sporadic, the incidence is decidedly less; but still even here the occurrence is frequent enough to merit attention. While the association of simple goiter and pregnancy has been observed for a long time,

\*Read before Mecklenburg County Medical Society meeting held at Lincolnton, N. C., as guests of Dr. L. A. Crowell, January 17, 1928.



it caused very little interest or consideration by the profession until Marine in 1917 drew attention to the importance of the relationship. As there is always some decrease in the iodine content of the thyroid during pregnancy, Marine first began to urge the giving of small doses of iodine internally as a prophylaxis to pregnant women in goitrous belts. Not only does the giving of iodine to the pregnant women diminish the danger of goiter in herself; this procedure also prevents the possibility of congenital goiter in the child. Adenomatous goiters are believed to be due to fetal restraints which develop in the gland during intrauterine life because of an iodine deficiency in the mother, which rests after birth are called into activity and proliferation by some such stimulus as infection, puberty, pregnancy and the menopause. Crile has said the giving of iodine to the mother during pregnancy will prevent adenoma in later years in the child. Other investigations have shown that iodine is present only in traces in the infant's thyroid at birth unless the mother has been given iodine, when it is enormously increased.

Simple goiter of pregnancy in many instances is slight, transient, and it may disappear spontaneously. If it does not it may be treated advantageously by the administration of an iodine solution 3 to 5 m., t.i.d., for a period of one week. After a period of two weeks the course of treatment may be repeated if necessary. In goitrous areas this is good prophylactic treatment. Such treatment is not only of benefit to the mother but also lessens the possibility of the child ultimately developing an adenoma of the gland.

While the majority of the goiters of pregnancy are without any subjective symptoms or signs of hyperthyroidism, there are cases on record in which the active hyperplasia of the gland led to a distinct and troublesome hyperthyroid state during the course of the pregnancy. Daly and Strouse report a series of 17 cases collected from the clinical material of the Chicago Lying-in hospital. The symptoms suggesting an over-active thyroid secretion in all of these were excessive nervousness, instability, emotionalism, very troublesome insomnia, tachycardia, an increased blood pressure, tremors, occasionally one or more of the eye signs usually associated with hyperthyroidism, and an enlarged thyroid

gland. None of these patients responded to the usual treatment of the nervousness of pregnancy with bromides, etc.; but in each instance prompt and gratifying relief was reported after the use of iodine. Three to five m. of a solution of iodine was given t.i.d. for a period of one week. In all the improvement was marked within 72 hours after the beginning of the treatment. The most striking relief in all was that of the insomnia. The blood pressure in all but one returned to normal level, the tremors and eye signs disappeared, and in 50 per cent the thyroid decreased in size. Two of the patients with a most stubborn nausea and vomiting were relieved when all other remedies had failed. Seven of the cases were primiparae and ten multiparae. In thirteen the clinical evidence of a hyperthyroid state became apparent between the fourth and sixth months; in three, before the third month; and in one after the seventh. Relief as a rule was complete in one week but most cases received two courses of treatment with an interval of one to two weeks. Occasionally three weeks were required before all symptoms were alleviated. One patient had a recurrence during lactation and was relieved by a similar course of iodine. The authors conclude that a hyperthyroid state may account at times for the nervous instability of pregnancy and for some of the toxemias. The administration of small doses of iodine will alleviate these conditions. No basal metabolic studies were made, the diagnosis being purely a clinical one, and substantiated by a therapeutic relief with iodine.

To be exact, recourse should be made to a study of the basal metabolic rate before the diagnosis of toxic goiter during pregnancy can be substantiated. Confusing to such studies has been the factor established by Sandiford, Wheeler, the Roots, and others, that during the last three or four months of pregnancy there is a physiologic increase in the basal metabolic rate (by the DuBois standard). This is not due to an excess of thyroxin in the tissues, although the growing fetus may make a greater demand on the thyroid gland, but is due to an increase in the amount of protoplasmic mass, due largely to the growth of the fetus and partly to the increased protoplasmic mass of the mother incident to pregnancy. This increased rate drops again early in the puerperium. The

work of a number of investigators in the basal metabolism of normal pregnancy showed that, while there is an increase in the rate toward the latter months, there are also maximum limits in which this rate may fluctuate and yet remain within the physiological. The average reading of Stander and Peckham of Baltimore was  $+4.5$ , the maximum limits  $-8$  to  $+15$ , quite within the limits of health. The average metabolic rate on a group of normal patients studied in Boston by Rowe, Alcott and Mortimer, showed an increase toward the end of pregnancy and a fall after delivery but their readings as well as those of Sandiford and Wheeler in Rochester and the Roots in Boston are within the normal limits. The readings of Beer and Cornell are high ( $+21.5$ ). Davis considers the reason for this is the fact that their patients lived in a goiter belt, were not given iodine, and the high readings indicated an iodine deficiency. Davis accordingly gave all of his patients iodine, because they too inhabited a goiter belt, and found rates closely approximating those of Stander and Peckham of Baltimore, which is not in a goiter belt; and where patients probably got iodine steadily in their food and water throughout pregnancy. The average rate obtained by Davis was  $+2.4$ , and the maximum limits  $-7.3$  to  $+13.5$ , quite within the normal limits. Davis concludes that if a woman with a normal thyroid takes sufficient iodine during the course of a normal pregnancy, her basal metabolic rate will remain within normal limits, although it may show a gradual increase during the last weeks of pregnancy. Boothby, to the contrary, states that a rate of  $+20$  or  $+25$  near the end of pregnancy may be due to the pregnancy and not to a hyperthyroidism. Certainly, for the present, we can say then that a rate in a pregnant woman much above the high normal limits of basal metabolism, or much above the  $+20$  or  $+25$  of Boothby, indicates hyperthyroidism. Davis suggests that the patients with rates much above the normal limits (the potentially hyperthyroid types) be kept under observation for months after delivery, and probably be given small doses of iodine. Davis has had eight patients delivered within the last few years who have developed exophthalmic goiter after delivery. The patients all had some thyroid enlargement prior to pregnancy; all had iodine dur-

ing pregnancy but none after delivery. One patient returned within four months after delivery with exophthalmic goiter. She was given iodine only during pregnancy, and her average metabolic rate was  $+32$  before delivery, falling to  $+8.9$  after.

Exophthalmic goiter is not frequently associated with pregnancy, although it does occur. The treatment is not altered any because of the pregnancy. In most instances the patient can be carried safely through to a normal delivery with medical treatment. In past years ligation of the thyroid arteries was practiced to control the disease during pregnancy. This was before the use of iodine became the vogue. Of recent years the symptoms of the disease are ameliorated and controlled by the use of iodine until the pregnancy is completed, when thyroidectomy is indicated. Of 32 cases reported by Boothby, 23 were delivered at term, 2 aborted, 2 delivered prematurely, and 2 were pregnant at the time of the report. Daly and Strouse report 8 cases of exophthalmic goiter during pregnancy, all of whose symptoms were relieved during pregnancy by the use of iodine.

When a non-toxic adenomatous goiter is associated with pregnancy, it is dangerous to give iodine on account of the grave likelihood of iodine hyperthyroidism. In fact, it is hazardous to give iodine to any pregnant woman over 25 years of age with a diffuse colloid goiter, because of the probability of existing non-palpable adenomata deep in the gland. If an adenomatous goiter becomes toxic during pregnancy, or a patient with an adenoma and hyperthyroidism becomes pregnant, the symptoms are controlled by ligations until the pregnancy is completed when thyroidectomy is indicated. Adenoma with hyperthyroidism is the rarest type of goiter found associated with pregnancy, only 10 instances of pregnancy in 2,185 cases of toxic adenoma noted by Boothby. The reason for this is obvious. This disease usually makes its appearance in women after 40 or 45, or beyond the child-bearing period.

Finally, it is considered a good plan to give a patient who has previously been operated on for toxic goiter small doses of iodine during pregnancy.

623-631 Professional Building.

#### REFERENCES

1. Significance of Thyroid Enlargement during

Pregnancy. Hinton. *Am. J. Obs. and Gyne.*, 13: 204-29, Feb., 1927.

2. The Thyroid During Pregnancy. Daly and Strouse. *J. A. M. A.*, 1925, 84:1798.

3. Influence of Thyroid Gland on Increased Heat Production Occurring During Pregnancy and Lactation. David Marine, et. al. *J. Metab. Research*, 5:277-291, April-June, 1924.

4. Insufficiency of Thyroid Gland From Pregnancy with Colloid Goiter. R. Gutzeit. Abstract *J. A. M. A.*, 87:1600, Nov. 6, 1926.

5. Pregnancy Complicating Exophthalmic Goiter and Adenomatous Goiter, with Hyperthyroidism. Mussey, Plummer and Boothby. *J. A. M. A.*, 87:

1009-1012, Sept. 25, 1926.

6. Thyroid Gland During Pregnancy, with Special Reference to Iodine Therapy. Strouse and Daly. *Wisconsin M. J.*, 25:325-328, July, 1926.

7. Thyroid Hypertrophy and Pregnancy with Data on Basal Metabolism and Calcium Content of Blood. Davis. *J. A. M. A.*, 87:1004-1009, Sept. 25, 1926.

8. Hyperthyroidism in Pregnancy. Robinson. *J. Obst. and Gyne., Brit. Emp.*, 29:296-302, 1922.

9. Thyroid in Relation to Obstetrics and Gynecology. David Marine. *Surgery, Gyne. and Obs.*, 25: 272, Sept., 1917.

## THE PLACE OF CESAREAN SECTION IN THE TREATMENT OF ECLAMPSIA\*

IVAN PROCTER, M.D., Raleigh, N. C.

Mary Elizabeth Clinic

From the Department of Gynecology and Obstetrics

The medical profession is well divided on the treatment of this serious disease of pregnancy. One school believes that the patient is ill from a constitutional disease of pregnancy and that the eclampsia should be treated, leaving the gestation to govern itself. Many obstetricians follow this course. The other school adheres to the teaching that the pregnancy is the sole cause of the disease and therefore it should be terminated as quickly as possible in order to eradicate the source of the toxemia. General surgeons and practitioners adhere to this teaching. There is still another group who follow the analytical and conservative course of individualizing the cases and applying treatment according to the conditions and indications present. The writer believes this to be the only sound method of applying therapeutics.

The frequency and mortality of eclampsia are a disgrace to our nation, a reflection upon the education of the public and the ability of the profession to cope with the serious problem. Any treatment that can improve the situation will be a boon to obstetrics. We cannot expect great results from the treatment of eclampsia until its etiology has been discovered and for this reason our major efforts should be directed toward prevention. Prevention consists of rest, milk diet and

elimination, to be followed immediately by induction of labor if the toxic symptoms do not disappear. There are patients, however, who have been neglected, others who have complications, and still others who have the rare sudden outbreak of convulsions. These are the patients in whom we must consider the advisability of delivery by cesarean section.

One of the first rules in all surgical treatment is to decide upon the operability of the patient. The analysis is usually made by certain clinical and laboratory tests. The eclamptic patient is in a state of shock; there is partial or complete anuria and deficient liver function—making altogether a poor surgical risk.

Cesarean section in average healthy patients yields a mortality of 3 to 5 per cent, while in eclamptic patients it is 20 to 30 per cent. The mortality from the conservative treatment of eclampsia when the Dublin or Stroganoff technique is used is only 10 to 15 per cent. But there are women in whom delivery by the vaginal route will cause greater shock and trauma than if delivered by section. If we consider pregnancy the sole cause of the toxemia, as it seems to be, then it would appear rational to deliver by the most rapid method. But, as in other branches of surgery, our results are the final test and it is definitely established that the death rate by the conservative method is only one-half

\*Read before the Sixth District Medical Society meeting at Warrenton, N. C., December 8, 1927.



that following the use of the radical.

When surgical treatment is chosen, however, it is well that we consider both the anesthesia and the technique of operation. Stander has demonstrated at the Johns Hopkins Hospital that ether, chloroform, nitrous oxide and ethylene all cause changes in the blood almost identical with those of eclampsia. In such cases our choice should be novocaine. Since the eclamptic patient has in the beginning a grave possibility of developing infection and embolus the technique that offers the best protection against these complications should be used; we believe that to be the low cervical cesarean section, or laparotrachelotomy.

The advantages<sup>1</sup> are that the incision is made through the thin wall of the lower uterine segment, which being much less vascular bleeds less; that this part of the uterus does very little contracting, which insures good healing and protects against rupture in subsequent pregnancy; that the lesser blood supply and comparative inactivity combine to diminish the risk of embolus formation. The abdominal cavity is safeguarded by both peritoneum and bladder being stitched over the

wound. If infection does take place it can be readily drained through the vagina.

In conclusion, the ordinary case of eclampsia without pelvic disproportion should be treated according to the condition of the soft parts and urgency of the symptoms. If the cervix is soft and obliterated remember that labor usually follows the first convulsion and that it is wise to depend upon morphine, elimination and possibly the insertion of a voorhees bag.

There are certain cases of eclampsia, however, in which cesarean section is not only justifiable but may be the treatment of choice.

These are: first, in an elderly primipara with a long, hard cervix and a closed canal, having had one convulsion and others impending; and second, in all cases of contracted pelvis or disproportion where delivery by the vaginal route will be accompanied by considerable shock and trauma.

#### REFERENCE

1. J. M. Munro Kerr, M.D., *American Journal Obstetrics and Gynecology*, Vol. XII, November, 1926, page 729.

## THE UNUSUAL IN MASTOIDITIS: 1. FRACTURE; 2. LATENT, AFEBRILE MASTOIDITIS

V. K. HART, M.D., Statesville, N. C.

Davis Hospital

From the Department of Head Specialties

A number of cases of atypical mastoiditis have been reported. Some of these have been cited as so-called "primary mastoiditis." Nevertheless, this latter condition usually follows a transitory middle ear infection with a subsequent mastoiditis. Such is now the consensus of opinion<sup>1</sup>. The previous middle ear symptoms may or may not have been observed.

The first example recorded below is not of this type. Moreover, there were some signs of a mastoiditis. However, complicating the same and predisposing to intracranial extension was a linear fracture running horizontally across and through the cortex, following

more or less the line of the lateral sinus, ending just posterior to the mastoid. A short review of the case is, therefore, of interest.

Case 1. Man, age forty-five years.

Admitted to the hospital March 31, 1927, following an automobile accident in which he was thrown from car. There was considerable shock but patient remained conscious. Physical examination was negative except for bleeding from the left ear and a scalp wound. There was some blood in the spinal fluid.

An uneventful convalescence followed for the next few days. On the seventh day there developed a temperature of

103 degrees. Examination disclosed a reddened, bulging left drum which was opened (same ear which had bled following injury). A thick purulent discharge followed.

Again the patient appeared to convalesce. On the eleventh day after injury, however, his temperature went to 102 degrees. There was some tenderness of the mastoid, but no edema. A spinal puncture gave a cell count of only one.

The next day the temperature went to 103 degrees. (A stereoscopic x-ray showed slight haziness of the mastoid; but, curiously enough, no fracture. Previous skull plates had been negative for fracture.) A blood culture was taken (negative at seventy-two hours). The white cell count was 8,900; polys. 88 per cent; lymphs, 10 per cent; eosin, 2 per cent.

On the following morning (thirteenth day) the patient had a frank chill followed by a temperature of 103.4 (axillary). In view of evidently increasing pathology and otherwise negative physical findings immediate operation was decided.

The above mentioned fracture was found only at operation. The bony contents were soft and friable, particularly over the sinus corresponding to fracture. In uncovering the same, a small opening was inadvertently made into the sinus followed by rather free bleeding. In view of this, and of the recent chill, the sinus was packed off using the usual technique. A twenty-four-hour blood culture, however, was negative and there was no thrombosis within the blood channel.

Ligation and severance of the internal jugular vein was done above the facial. The facial vein was ligated.

The patient did fairly well post-operatively, regaining consciousness; but on the following day he developed a frank meningitis and died. It is believed that the chill of the day before marked the period of invasion but unfortunately no spinal puncture was done at that time. The spinal fluid taken post-mortem contained 1,000 cells per cu. mm. (leucocytes) and gram-positive diplococci (morphologically pneumococci). Agglu-

tion and fermentation tests of the culture showed these to be type III pneumococci.

Probably the infection started in the middle ear and was superimposed on devitalized bone with clotted blood as an excellent culture medium. No edema occurred because by means of the fracture easy access was had to the inner skull. The late onset, the dura at first offering its usual protective barrier (pachymeningitis) argues for this process. Of course, infection can and does occur directly from an infected labyrinth following one of three routes:<sup>2</sup> 1. By nerve channels opening into internal auditory meatus. 2. Through the aqueductus vestibuli. 3. Through the aqueductus cochleae.

Case 2. Man, age fifty-seven years. Was first seen April 5, 1927, because of severe earache, left. Pain was of most excruciating type with paroxysmal exacerbations racking the patient with intense suffering. It was not controlled by one-fourth grain morphine. Temperature was sub-normal (97 degrees). Patient had had an attack of acute otitis in this same ear two years previously. The drum was slightly dusky with some reddening over Shrapnell's membrane. There was no bulging of the drum. Drum was opened under local anesthesia. There was no serum or pus and the ear never discharged except for a short while following operation. White cells 8,700; polys. 56 per cent; lymphs. 39 per cent; mono. 3 per cent; trans. 1 per cent; eosin. 1 per cent. Stereoscopic x-rays showed some blurring about antrum but such could have possibly come from his previous otitis.

The character of the pain was so severe patient was admitted to the hospital for observation. Violent paroxysmal pain continued in and about the ear for seventy-two hours. Opiates gave partial relief only. There was moderate tenderness over the tip, but never any temperature before operation.

Operation was finally decided for relief of pain deeply seated in ear and in no way following the branches of the fifth. This was done despite a normal temperature and no increase in blood count.

At operation a very cellular mastoid (pneumatic) was found. There was a small amount of serum in these cells, but no pus. Culture of the middle ear discharge, which occurred only after operation and was very slight, was negative. The patient made a complete and uneventful convalescence with relief from pain.

The only explanation offered for the pain is a small pocket of pus or exudate locked in the attic and not reached by an incision

through the lower drum. Relief from pain followed mastoidectomy, not necessarily because of eradication of mastoiditis, but because of establishment of thorough drainage from the middle ear via the antrum.

#### BIBLIOGRAPHY

1. Hempstead, Bert E.: Mastoiditis Without Apparent Involvement of the Middle Ear. Collected Papers Mayo Clinic and Foundation, 1925. Phil. and London, W. B. Saunders Co., 1926, pp. 723-724.
2. Kerrison, Philip D.: Diseases of the Ear. Phil. and London, Lippincott, 1925, p. 383.

## COMMON MURMURS AND IRREGULARITIES OF THE HEART\*

W. BERNARD KINLAW, M.D. Rocky Mount, N. C.

Boice Willis Clinic

Medical Service

In presenting this paper I am not trying to bring forth anything new, but merely to refresh your memory on the importance and significance of certain murmurs that are commonly heard over the heart and certain irregularities that are noted in the examination of the heart or pulse. The stimulus for this paper is the fact that rather frequently patients come to our clinic with the statement that they have a "bad heart" or a "leaking heart." If operation is indicated they are often afraid to take an anesthetic. Another group will present a heart murmur and possibly an increase in pulse rate, and state that they have taken digitalis several times within the past year or two, and lastly, we all see the patient whose chief complaint is "low blood pressure" and proudly tells us how his family physician has had to give him digitalis. These patients usually present a murmur, but certainly the vast majority of them are not organic in origin, and without the signs or symptoms indicative of early congestive failure, should not be given digitalis.

**Murmurs.**—In considering the more or less common murmurs, I will not discuss those of congenital heart disease, pulmonic valve disease, or tricuspid insuffi-

ciency; but the relative importance of the systolic and diastolic murmurs of the mitral and aortic valves, and the so-called functional murmurs. The most common murmur heard over the heart is systolic in time and heard best near the upper left border of the sternum in the second and third interspaces. It is best heard with the patient reclining and during full expiration. Although its etiology is not definitely known, this is an important murmur to detect because it is present in about fifty per cent of normal individuals, and such persons should not think they have heart disease. This is a functional murmur, is not accompanied by a thrill, and is not nearly so loud as the systolic murmur of pulmonic valve stenosis. Weakened or anemic individuals will often present this murmur; the murmur does not cause the symptoms. All loud murmurs, functional or organic, are transmitted; therefore transmission to the back, axilla, etc., means only that a murmur loud enough to be audible at these points.

The second most common is the systolic murmur heard at the apex of the heart. This may be functional or organic. If this murmur is considered organic, then we have made a diagnosis of mitral regurgitation, which is shown by statistics to be the commonest diagnosis made by American physicians today,

\*Read at Seaboard Medical Meeting, Norfolk, Va., December 7, 1927.



in cases of real or suspected heart disease.

The functional murmur in this area in no way prevents a long and useful life. It is not very loud, it may or may not be constant, there is no enlargement of the heart and no history of rheumatic fever associated with it. Ten years ago the text books stated that mitral regurgitation was the commonest heart lesion found, whereas today the recent book by Dr. Richard Cabot states that true mitral regurgitation was present only in seven cases out of 1,846 cardiac cases brought to autopsy, while mitral stenosis was present in 167 cases, and that in his opinion *true mitral regurgitation is not a clinical entity, for it cannot be recognized in life*. In the same volume Dr. Cabot agrees with Dr. McKenzie in saying "no one ever dies of mitral regurgitation." Drs. White and Sprague,<sup>1</sup> also of the Massachusetts General Hospital, in view of this statement, feel that the autopsy statistics are of doubtful value, because one may as well say there is no such thing as "effort syndrome" in cardiac patients because necropsies are not reported on such cases. They also say further that the autopsy records of their hospital do not accurately measure the incidence of mitral regurgitation, since the children's service is relatively small and it is at this age period of four to twelve that organic mitral regurgitation is most common. Poynton and Payne<sup>2</sup> found marked mitral regurgitation in eleven out of a series of 150 autopsies in cases of rheumatic heart disease in children under twelve years, and Bass<sup>3</sup> believes that one-third of the cases of mitral insufficiency in children are unaccompanied by stenosis.

*It seems that the pendulum has swung from one extreme to the other, and that the conservative viewpoint is certainly the more rational one.* When we see a child with a definite history of rheumatic fever or chorea with an enlargement of its heart, with a loud blowing systolic murmur completely or nearly masking the first sound at the apex, in all positions and at every examination; and also having a complete absence of a diastolic murmur, both after exercise and in the recumbent position; then I believe we are justified in making a diagnosis of true mitral regurgitation. It is agreed by all that stenosis will probably follow, but as regurgitation is the earlier condition it seems proper to try and

diagnose it correctly, and by repeated observations and advice, try to prevent further damage to the injured mitral valve, as the prognosis is good in pure mitral regurgitation.

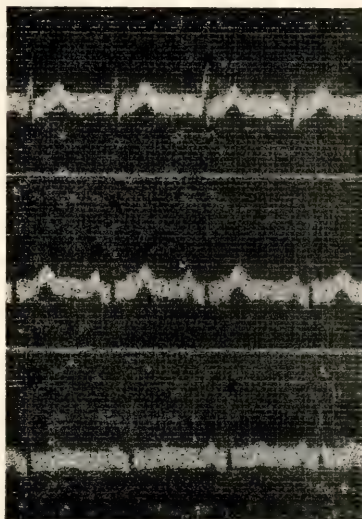


Fig. 1

Normal electrocardiogram. Rate 90 per minute. The P (auricle), R (ventricle) and T (ventricle) waves are upright and normal in all three leads. This patient had a rather loud systolic murmur at the apex and in the pulmonic area, and complained of spells of faintness, dizziness and various heart pains. Had been kept in bed a month taking eight drops tr. digitalis t.i.d. There is no evidence of digitalization in tracing (T waves would probably be inverted). Since reassurance of no organic heart disease, patient plays tennis without heart symptoms.

A systolic murmur over the aortic area is rather common and is usually functional, due to a dilatation of the aorta and not to roughening. Certainly a systolic murmur in this area causes one to consider aortic stenosis, but the percentage of chance is quite high against it being true stenosis. Cabot<sup>4</sup> found true stenosis in 28 of his 1,846 cardiac autopsies.

Aortic stenosis is usually found in an elderly person and seems more often of rheumatic than syphilitic origin. It is accompanied by a distinct palpable systolic thrill at the base,

and the second sound is generally faint or absent. Without these findings with the systolic murmur it had probably best not be considered true stenosis.

Diastolic murmurs are very important and nearly always indicate organic heart disease.

An early diastolic murmur heard along the left upper border of the sternum, coming directly after the second sound usually, and of a rather high pitch, is considered evidence of aortic regurgitation, usually organic. There is nearly always organic disease of the cusps, due to rheumatic infection, lues, or arteriosclerosis, in the order of their frequency.<sup>3</sup> The second sound at the aortic area is usually quite distinct. We should not wait for the corrigan pulse, capillary pulse, or increase in pulse pressure to appear before making the diagnosis, as these are rather late findings and when present usually indicate a rather pronounced regurgitation. If the murmur is loud it is quite easy to hear, but in early cases it can best be heard by using the diaphragm type of stethoscope and having the patient exhale and hold the breath. If the greatest point of intensity is to the right of the sternum in the aortic area, then luetic aortic dilatation is usually present. Aortic regurgitation, due to syphilis, is a serious thing. The patient rarely lives more than a few years after it is diagnosed. If there is a rheumatic history and a negative wassermann or kahn the prognosis is better. Often in the rheumatic type there may be a diastolic murmur associated with the aortic murmur. Probably this combination gives a better prognosis than with just the mitral stenosis alone, as there will be a left ventricular enlargement to balance the right sided enlargement of the stenosis.

A diastolic murmur, heard at the apex, following shortly after the second sound, in cases that do not present aortic regurgitation is considered positive evidence of mitral valve damage. This mid-diastolic murmur of mitral stenosis is often difficult to hear but is extremely helpful in diagnosis and prognosis if once heard. I believe it is more often missed than any other murmur. It is usually quite different from the aortic diastolic, in that instead of a high pitched hissing murmur, following directly after the second sound, it is low pitched, soft and rumbling, and comes in middle or late diastole. It is

much better heard with the bell stethoscope, which should not be placed tightly against the skin. It can often be elicited by having the patient exercise, then lie down, and may sometimes be better heard when he is on his left side. Inhalation of amyl nitrite may increase or bring it out. Auricular fibrillation is a fairly common condition in hearts that have mitral stenosis, and it is important to remember that a fibrillating auricle does not pump the blood through the stenosed valve at a rate fast enough to produce a loud murmur, and the presystolic phase of the murmur is usually absent. The faint mid-diastolic murmur will usually remain, however, and it is the important murmur to listen for. In aortic regurgitation with an enlarged ventricle, we may hear the same type of murmur, which is the Austin Flint murmur (produced by a relative stenosis). It is present in less than half of the cases of aortic regurgitation. If both murmurs are present in a case with a rheumatic history, the correct diagnosis will probably be mitral stenosis and aortic regurgitation; but if there is a positive syphilitic history, then it is probably aortic regurgitation and functional mitral stenosis.

A marked degree of mitral stenosis gives a poor prognosis and is usually considered a contra-indication to pregnancy; whereas slight stenosis may not prevent a long and rather useful life, especially if caution be taken against the acute infections.

*Irregularities.*—There are several types of irregularities of the heart I wish to mention briefly only, the three most common—auricular fibrillation, extra-systoles, and paroxysmal tachycardia.

*Auricular fibrillation.*—This type of irregularity is seen quite frequently and is considered the commonest type of persistent arrhythmia. These fine fibrillary contractions of the auricle are thought now, after the work of Thomas Lewis and his associates, and others, to be due to a self perpetuating ring of excitation that originates in the right auricle about the mouth of the superior vena cava. It is the so-called "circus movement." The ventricle responds to these rapid fibrillary contractions in a very irregular manner, varying in strength of contractions, and time interval between them.

From a standpoint of etiology the types that we see most often are three. First is

the rheumatic heart type, which is seen in persons (most often women) between twenty and forty years of age, and seems to follow mitral stenosis. This is a very serious complication, and is usually the beginning of the end in these patients, as it means acute failure of the heart muscle. This type is not seen in North Carolina or Virginia as often as in the New England States, because we do not have as much rheumatic fever. The next type of patient we see with fibrillation is the man over forty who has been troubled with arteriosclerosis, renal disease, myocardial degeneration, or thyroid disturbances. After proper treatment this patient may carry on, doing his work with very little discomfort for years, but may require his daily ration of digitalis or quinidine. The third seems to be a transient type that may come on during an illness such as typhoid, influenza, pneumonia or diphtheria, or following an anesthetic. This type is probably best treated with quinidine. Fibrillation is occasionally brought on by excessive amounts of digitalis, and if such an etiology is suspected, the history of the amount of the drug taken is of value, as is also an electrocardiogram, which will usually reveal whether the heart has had an overdose of digitalis by the characteristic inverted *T* waves.

Usually it is not hard to diagnose fibrillation at the bedside, because there is a complete absence of regularity to the pulse. It is a good plan to shut your eyes and feel the pulse for about a minute and note that no three or four beats have the same time relation, whereas, if it were premature beats (extrasystoles), there would usually be three or four normal beats, then the premature one. The dominant rhythm is absent in fibrillation and present in extrasystoles. The rate at the wrist is usually less than at the apex. A little exercise will increase the fibrillation, and usually decrease the extrasystoles enough to make the diagnosis; however, if the rate is above 90 per minute an electrocardiographic tracing is of value and should be made when possible. It will clearly show if the condition is auricular fibrillation by the absence of normal auricular or *P* waves, the presence of fine fibrillary waves, and a totally irregular response of the *R* waves or ventricular complexes. The tracing may also show other

complications, such as bundle branch block, right or left axis deviation or predominance, abnormally high or broadened *P* waves indicative of mitral valve disease and premature auricular or ventricular extrasystoles. Since satisfactory portable electrocardiographs are being used with success, the very sick patient does not have to be moved in order to have an electrocardiogram made. The value of this machine is readily appreciated when one is trying to differentiate between coronary thrombosis and acute pancreatitis, or some other acute upper abdominal disease. Pardee's sign—the high origin of the *T* wave with convexity upward—will usually diagnose recent coronary thrombosis. This patient of course should not be moved from his bed—whereas acute abdominal disease needs immediate surgical attention.

The diagnosis of fibrillation, with determination of its etiology, is important because there is usually good response to proper treatment, especially in the rapid type with moderate heart failure.

Extrasystoles or premature contractions are seen frequently and often cause patients to think they have heart trouble. These extra beats may arise in either the auricle or ventricle (in any part of the heart muscle). The ventricular extrasystoles are the ones that are noticeable, as the "flop" or "turnover" of the heart, and seem most noticeable in the younger people, and especially those of a nervous temperament. Lewis states that they occur at some time in the life of every adult. The cause for this functional irregularity is not always easy to determine, but there is apparently a definite relationship between this arrhythmia and tobacco, indigestion, over exercise, coffee, and mild infection. It is most commonly found in the slowly beating hearts, and will usually disappear when the pulse is accelerated, unless it is associated with some organic heart disease. Following the premature beat there will be a pause, so that the next beat of the heart will come at its proper time; whereas in fibrillation there is no compensatory pause. Often the premature beat will not be palpable at the wrist and occasionally we see a case with a slow pulse in which the extra beat will come in between normal beats, or it may follow every normal beat. The importance



of the condition is to recognize it, and know that it is of little significance when found alone; but it may be associated with organic heart disease. Of a series of 1,500 cases reported by Dr. Paul White,<sup>6</sup> 250 had extra-

systoles. Of these, three-fifths had no organic heart disease and two-fifths were associated with it; therefore it is good policy for every patient presenting premature contractions to have a thorough heart examination.

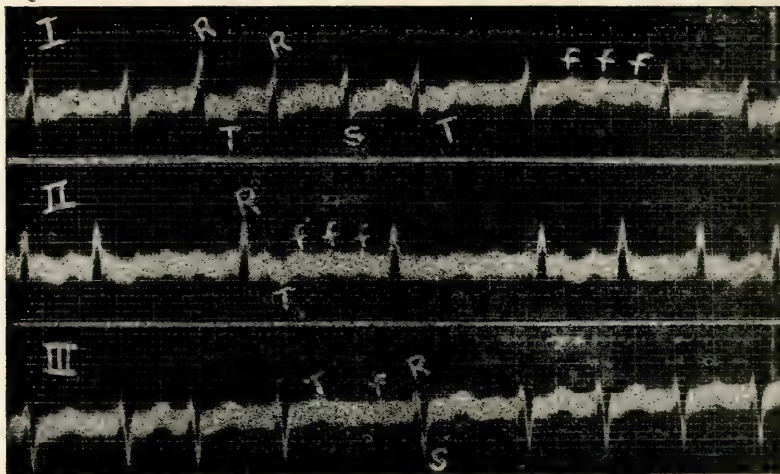


Fig. 2

The usual type of auricular fibrillation with ventricular rate 135 per minute. The *R* waves are irregular and vary in height. There are no *P* summits and the fibrillation is evidenced by the oscillations

*f.f.f.* The low voltage (*QRS* less than 5 mm. in all leads), the slurring of *QRS* in all leads and the inverted *T* waves in leads one and two indicate extensive myocardial damage. The ventricular complexes show left ventricular predominance.

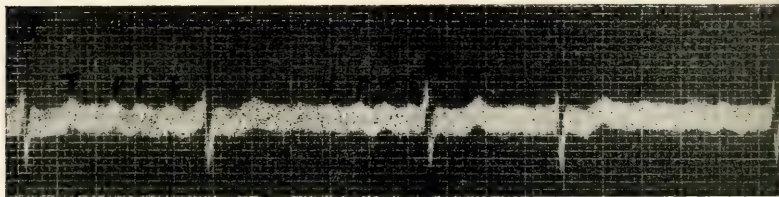


Fig. 3

Lead 2 of a case of auricular fibrillation with a ventricular rate of only 65 per minute. This is un-

usual and might, except for careful physical examination, be easily mistaken for extra-systoles.

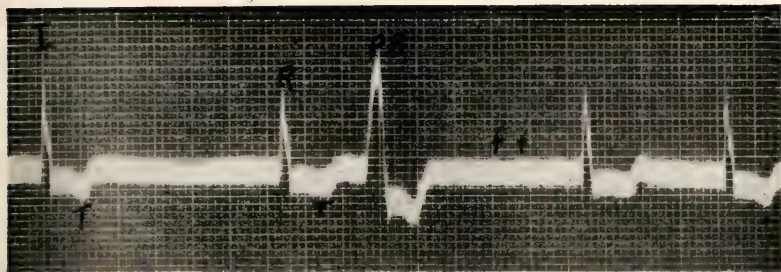


Fig. 4

Lead 1. Shows both auricular fibrillation and a ventricular (left) premature beat. (P. B.) There is

Paroxysmal tachycardia is an interesting type of arrhythmia, which constitutes about 15 to 20 per cent of heart irregularities. It usually has a sudden onset and the patient may complain of faintness or syncope, or at least is nearly always conscious of the increased rate which ranges between 120 and 220 per minute. It is most often seen in women, between the ages of 30 and 50. It is not a sign of organic heart disease; but it is important to rule out the possibility, and at the same time try to determine the etiology. Dr. White, in the same series of 1,500 consecutive private patients, found 132 to have this irregularity. Of this number 45 gave evidence of organic heart disease while 89 did not. The average age of the patients with functional disease was thirty-nine years, while that of the organic was forty-eight. The condition is thought to be due to some single focus of increased irritability in the auricle, node, or ventricle; the auricle type is most frequent. The origin may be determined by the electrocardiogram.

Palpitation, which is a symptomatic disturbance of the heart, should probably be mentioned here, as it is often the reason for a patient seeking the service of a physician. It is best defined as "heart consciousness," which may be rapid, or of normal rate, regular or irregular. It is often due to extrasystoles, so it is important while examining the patient to ask him if he feels the disturbance that is worrying him. It may be due to an irritable heart or an irritable individual. There are causes too numerous to mention, ranging from an exciting game of cards to the pleasant and comfortable feeling of a full stomach; but the important point about palpitation is that it is not always due to general nervous instability, as it was the

no P wave and the fibrillation (i.f.f.) waves are almost entirely absent. The ventricular waves (R) are slowed (65 per min.) from digitalis. T is inverted.

chief complaint of 105 (or one-third) out of 320 patients coming into a general hospital suffering with failing heart.

#### TREATMENT

A paper could be written on the treatment of most anyone of the above mentioned conditions. I shall confine myself to a few remarks along general lines, mainly in regard to digitalis therapy. From my observation I believe first, that entirely too many patients receive digitalis when it is not indicated; secondly, that patient needing digitalis usually receive it in doses too small to be of maximum therapeutic value. The type of patient that receives digitalis when not indicated is usually one complaining of palpitation, dizziness of syncope, aching over the heart, and the frequent desire to take deep sighing respirations. He may also present extrasystoles or a fairly loud functional murmur. A high percentage of cases of this type of patient has effort syndrome and should not have digitalis. Reassurance, after a careful examination, is needed, and treatment along lines to reduce their nervous tension. Heart murmurs, even of organic origin, without the signs of congestive failure—viz., dyspnea, cough, cyanosis, edema, rales at the lung bases or enlargement of the liver, not due to other causes—do not call for digitalis therapy.

The heart that needs digitalis and does not respond to it properly is usually one that has not had a sufficient quantity of a potent preparation. This may be due to the fact that the patient, the nurse or the physician, is confusing minims with drops, and instead of the patient getting 20 minims of the tincture, he may be getting 20 drops, which is equivalent to six to ten minims. It is for this reason that I believe the powdered leaf,

either in pill or capsule form, is the most satisfactory preparation. You can accurately measure the dosage, and calculate from the patient's weight the proper amount necessary to digitalize him.

The treatment of fibrillation is usually very satisfactory to the physician, and the patient. This is especially so in the rapid heart type with congestive failure. If digitalis is given in doses of sufficient size (gr. iii) every four or six hours until the pulse comes down to 80 per minute, the edema, congestion, and other signs of circulatory embarrassment usually disappear rather rapidly. After the patient is digitalized it is advisable to keep him on a sufficient quantity of the drug to maintain saturation for several months or years. This is usually about  $1\frac{1}{2}$  grains of the powdered leaves or 15 minims of the tincture, as this is the amount excreted in 24 hours. If saturation is not continued the patient will probably have another breakdown with fibrillation, in six or eight weeks.

Quinidine sulphate has proved of value in the treatment of selected cases of fibrillation. The acute attacks which come on during or following anesthesia, or during some infectious disease, usually respond to it promptly. Its greatest use, however, is found in the paroxysmal type, which is most commonly seen in elderly persons. A daily amount of two to ten grains will usually prevent paroxysms and allow these to lead a comfortable life. It is unsafe to use quinidine in patients with serious valve lesions, marked congestive failure angina pectoris, or in cases coming on following coronary disease.

The treatment of extrasystoles is to give the patient a complete examination of the heart and if no organic disease is found, assure him that the heart is normal. Try to locate and remove any foci of infection that may be present. Sedatives often prove useful. Quinidine and digitalis have been tried but seem of little value. When unable to diagnose an organic lesion of the heart by usual examination or electrocardiogram it seems of value to have such a patient take a routine set of exercises on arising in the morning followed with a cold sponge and a brisk rub, and repeat the exercises at bed time followed by a warm bath.

There is also apparently some relation be-

tween extrasystoles and over use of tobacco and coffee, and indigestion. The etiology is often difficult to determine, and after assuring the patient that he has no heart disease, if the irregularity does not worry the patient, there is no necessity for treatment.

In all cases of paroxysmal tachycardia pressure over the right vagus nerve should be tried, as it is very convenient if this procedure will stop the annoying condition. Hard pressure on the eye balls will occasionally stop it but it is rather painful. Different body movements, as stretching or bending about and taking deep breaths, and numerous other simple things have been known to stop an attack. Quinidine seems of value in some cases, both to stop the attack and lessen or prevent the recurring attacks.

#### CONCLUSIONS

1. Systolic murmurs are often heard over the heart and usually do not indicate organic heart disease.

2. All diastolic murmurs are important, usually indicate organic heart disease, are more difficult to hear, should be watched but not necessarily treated as soon as diagnosed.

3. Effort syndrome is seen more often than organic heart disease and should not be treated with digitalis.

4. Digitalis is a poison and should not be given unless definite indications for it are present. It then should be given in larger doses than are generally used.

5. Auricular fibrillation usually indicates serious heart damage—usually responds nicely to proper doses of digitalis (and quinidine when indicated) and in most cases the patients should continue with small doses daily, to prevent recurring attacks.

6. Sixty per cent of extrasystoles are not associated with organic heart disease; but, in consideration of the other 40 per cent, all are entitled to a complete heart study.

7. As heart disease has replaced tuberculosis as the "Captain of the Men of Death," in the case of any patient presenting extrasystoles, auricular fibrillation, tachycardia, or other irregularity, or any heart disease in which the diagnosis is not definitely determined, an electrocardiogram is as definitely indicated as is an x-ray examination in the case of a patient with cough or pain in the chest.



## REFERENCES

1. P. D. White and H. B. Sprague: American Heart Journal, Vol. 1, No. 5, June, 1926.
2. Poynton and Payne: Researches on Rheumatism, 1913, p. 135.
3. Bass, M. H.: Abs't Pediatrics, W. B. Saunders

Co., Phila., 1924, iv.

4. Cabot, R. C.: Facts on the Heart, 1926.

5. White, P. D.: Boston Med. and Surg. Journal, Dec. 16, 1926, p. 1146.

6. P. D. White: American Heart Journal, June, 1926.

## CASE REPORTS

### A CASE OF DIARRHEA TREATED BY COLON IRRIGATIONS

D. H. NISBET, M.D., Charlotte, N. C.

Last May, a man of 49 came into the office complaining of loss of weight, dropping from 189 to 156 pounds in three months. This was caused by diarrhea which had bothered him over this period of time. He had as many as 10 to 15 stools a day. He had spent three years in the Philippines 25 years ago. This was the third bowel upset in the past three years, and even between attacks, the stools were always mushy, contained no blood, and there was no griping.

Physical examination showed a rather thin man, sallow complexion, absolutely negative findings. Stools were examined repeatedly and no amebae were found, and a culture was negative for monilia psilosis thought to be the causative organism in sprue.

He was put to bed on a restricted diet containing liquids, fruit juices, buttermilk, broths, soups and cereals. Each day he reported to the office for a colon irrigation; in four days his diarrhea was checked. The return from the irrigation revealed a stool containing no mucus and practically no bile.

This case is reported to emphasize the use of the colon irrigation in diarrheal conditions. We are all familiar with its use in constipation. This case proves to us that it acts very quickly in exactly the opposite condition. The method is as follows: patient lies down on the left side with the knees drawn up and a 6-inch metal rectal tube is inserted into the lower bowel. Water from a 1 to 3-gallon container is allowed to flow in slowly until the colon is filled, when it can be expelled

through a waste tube without removing the rectal tube. This procedure can be repeated as many times as necessary and in this way the colon is completely cleansed and all irritating material removed. This, I believe, is much better than giving large doses of some purgative to get rid of irritating materials, as they tend to upset the whole gastro-intestinal tract, while this method affects only the colon. Where there is marked spasm, a strong solution of magnesium sulphate will cause relaxation of the muscles of the intestines in the same way as demonstrated in duodenal drainage.

### CARCINOMA OF THE ESOPHAGUS—IMPROVEMENT

G. CARLYLE COOK, M.D.

Lawrence Hospital, Winston-Salem, N. C.

White married housewife, aged 58, giving family history of no importance. Admitted Januray 4, 1927. *Present Illness:* About eight months ago first noticed a difficulty in swallowing solid food which gradually became more severe until she frequently spat up food several minutes after eating. Often had much distress and strangling after taking liquids. All symptoms have increased in the past month so that she has lost ten pounds in weight. Three weeks ago she was told that she had incurable cancer of the esophagus and could not be cured. *Past History:* Usual diseases of childhood, none severe. Pneumonia twice without complications when quite young. "Flu" eight years ago. Always healthy, a hard worker and big eater. Habits good. Menses began at 12, regular 28-5,

until six years ago when they ceased suddenly. Mother of ten children, youngest 21, no miscarriages. Alimentary: Appetite good but has not been able to eat as much as she wanted in three months because of dysphagia. During the past twenty years had frequent colicky attacks, distress, heartburn and gas after meals. No jaundice, hematemesis nor melena. Bowels constipated. Pulmonary: No cough, hemoptysis nor pain in the chest. Cardiac: No dyspnea, precordial pain nor edema.

*Examination:* Temperature 99, pulse 70, respiration 20.

Poorly nourished and developed, showing no acute distress. Head: Scalp, ears and eyes normal except for a slight yellow tinge of the sclera. Mouth: lips and mucous membranes somewhat pale. All teeth have been extracted except lower front. Throat negative. Neck: Thin, no glandular enlargement. Chest: Distended, symmetrical, pigeon shape, hyper-resonant all over. No rales. Cardiovascular: Normal impulse, no shocks or thrills. No enlargement, no murmurs or accentuation. Pulse: full, strong and regular. Vessel wall soft. Abdomen: Striated, soft, flabby, no scars, mass, tenderness or muscle spasm. G U not made. Skin shows a dusky pale color, dry and atrophic. Glands, bones and joints, nerves and muscles negative.

Urine (10-20-27): Abnormal findings; faint trace albumin. Blood count (10-19-27): Reds 5,040,000; whites 6,850; hbg. 60 per cent. X-ray: Fluoroscopic of the chest shows heart and aortic shadow normal in size, shape and position. Lungs show no pleural adhesions, slightly increased hilus markings, no enlargement of the mediastinal shadows. Butter milk containing barium sulphate drunken shows a free normal passage down to within 10 cm. of the cardia, where there is a narrow irregular constriction of the esophagus about 5 cm. in length, and slight pouching above with retardation of about one ounce of the meal. Plate of the chest shows the same as the fluoroscope, and after placing the radium it is shown to occupy the area of the stricture.

*Operation and Treatment:* 10-20-27. Pre-operative diagnosis: Carcinoma of the esophagus. Under cocaine 5 per cent to pharynx and larynx, esophagoscopy was done and ra-

dium applied. About 30 cm. from the incisor teeth the esophagus appeared normal and at that point there was constriction, irregularity, raggedness and bleeding of the esophagus which showed an opening of only 4 mm. diameter which the esophagoscope would not enter; but during inspiration it stood open so that the tortuous course could be seen about 3 cm. below tip of the esophagoscope. The bloody area was aspirated clean and 25 mg. of radium in 1 mm. of brass and 1 mm. of rubber screens which were previously fixed in a rubber tube were placed in the upper portion of the constriction by Jackson's grasping forceps. The esophagoscope was withdrawn leaving in the radium at 10 a. m. to be left in twelve hours. Post-operative diagnosis: same.

*Treatment and Progress Record:* Radium regurgitated at 8:25 p. m. of same day. Two days later x-ray (200 KV-5Ma) 8 min. 4 exposures. Discharged on eighth day, no change note, to return for further treatment and observation.

Esophagoscopy on thirty-third day shows the lesion in lower esophagus to have lost its grayish bleeding surface and to show only as a slight stricture which is soft and can be distended with dilator without hemorrhage or pain. General condition much improved. To return for observation.

Two and a half months after first treatment patient returned having some "soreness" in chest which she attributes to a cold but can swallow as well as ever and only has difficulty in swallowing meat. Can drink or take soft food without difficulty. Esophagoscopic examination of the wall just below the cardia reveals a narrowing which will not admit a nine mm. esophagoscope, but which shows no disease, is covered with healthy folds of mucous membrane, the constricting element being confined to the outer layers of esophagus. The stricture relaxed spontaneously for the escape of gastric secretions and gases and a 7 mm. bougie passed freely into stomach. Discharged cured and advised to return to have stricture observed and dilated if necessary.

#### RESUME

This patient was given deep x-ray therapy at weekly intervals for one month following

radium treatment, until a definite bronzing of the skin at the four ports of entry, two over the chest and two in the back so that a cross-fire radiation was accomplished to the esophagus. She has shown a continued improvement and is, so far as she can tell, well and happy. This case is a very good example of what can be done by the use of radia-

tion combined with per oral endoscopy in a lot of cases which probably would otherwise be considered incurable. It also thoroughly illustrates why patients suffering with symptoms of the respiratory or esophageal tract should not be dismissed as beyond hope until such examinations have been made.

## FROM THE LATEST MEDICAL LITERATURE

### SYMPOSIUM ON CHRONIC APPENDICITIS

*British Medical Journal*, December, 1927

These are interesting treatises on the much discussed, and abused, subject, chronic appendicitis; four prominent English surgeons contributing in an effort to shed light on this frequently debated subject. Wilfred Trotter, under "Symptomatology and Diagnosis," speaks interestingly in recalling the stages in which the surgery of the appendix has been built up. Appendicitis, first coming to the attention of the surgeon in the form of abscesses in the right iliac region; later the evolution of the conception of the acutely inflamed appendix as the primary lesion. A third phase, in which was the recognition of incomplete spontaneous resolution, recurrent attacks, and the interval operation. A fourth phase, marked by the conception that the acute attack is no essential part of the disease, which may be chronic throughout. Subsequently, it was recognized that the local manifestations were not including the real significance of the disease, and it was possible to observe the distant symptoms due to the local condition, but manifested by disease in other organs. This fifth conception he regards as the final phase, to date, and the one he discusses.

Raising the question, he first concludes that such a disease as chronic appendicitis as a primary condition does exist, but in its detection relies more on the clinical picture presented than on the laboratory findings, and states that in dealing with this subject a return to the old-fashioned clinical method is

especially appropriate. Recognizing chronic appendicitis as a clinical entity, he recognized two separate pathological states: first, the primary chronic appendicitis, and secondly, the residuary condition left by an acute attack. Associated with these he presents features characteristic of each type, clinical and pathological. The primary type often presenting end effects that simulate those produced by infected tonsils, such as lymphatic infections, toxemic states, and distant lesions in stomach and gall bladder; these effects, however, he contends are much more in evidence in youth. The abdominal effects show a definite relation to infection in the upper abdominal organs by way of the lymphatic path, citing as evidence the frequency of cholecystitis in young women in sequence to appendicitis. The urinary tract may also be invaded, explaining many infections in the urinary tract of the colon bacillus type. Many cases of chronic dyspepsia, recurrent type of vomiting in children he states are due to chronic appendicitis, and can be cured by removing the appendix.

Diagnosis is dependent on a proper understanding of disturbed function, especially that interfering with the normal movements of the colon, calling attention to the fact that the gaseous and fecal contents of the bowel are passed along at different rates, the former in a relatively rapid and continuous stream, the latter in a slower and less continuous one. Regarding the infected appendix as capable of disturbing the motility of the colon, he explains the frequency in chronic appendicitis of abnormal colonic function and especially constipation, the reflex



mechanism being upset, there is produced gastric pain, nausea, flatulence and dyspepsia. Diagnosis of the disease itself he discusses under local and general symptoms, the former classical in character, the latter often vague, but referable to the reflex mechanism, usually gastric in character, bearing in mind always the possibilities of disease conditions involving the stomach, gall bladder, pelvis and urinary tract. A complete history with observance of all signs and symptoms usually are sufficient to decide the possibility of a primary disease of the appendix.

Continuing the symposium, J. W. Dowden, under the caption, "Diagnostic Difficulties in Chronic Appendicitis," calls attention to the necessity of avoiding leading questions in eliciting the history, and the importance of previous acute attacks. He also calls attention to the fact that chronic appendicitis is distinctly a disease of early life, and enumerates the classical symptoms of appendicitis, and the physical findings usually in evidence, devoting most of the discussion to differential diagnosis, and cites possible confusing conditions simulating appendicitis, emphasizing visceroptosis in women, duodenal ulcer in men, tuberculous glands in children, renal and ureteral affections in both sexes.

Because of the close anatomical relationship existing between certain of the female pelvic organs and the appendix, Victor Bonney, in discussing the "Gynecological Considerations in Chronic Appendicitis," emphasizes the importance of excluding pelvic disease in cases of suspected appendicitis in women. In his experience appendicular pain may be wrongly attributed to pain originating in the pelvis, and conversely, pelvic pain may be construed as originating in the appendix. Recognizing that such a condition as chronic appendicitis does exist, Bonney calls attention to the differential diagnosis, enumerating, in order, diseased tubes and ovaries, misplacements of the uterus, menstrual disorders, and most important the pain attributed to drag on the ovario-pelvic ligament. Careful examination may not always result in accurate diagnosis, he opines, but pain sufficient to justify operative interference in women, makes necessary a mid line incision so that ample exploration may be done.

Concluding the discussion, under "Etiology and Sequels of Chronic Appendicitis," A. J.

Walton calls attention to the pitfalls usually encountered in making a diagnosis of chronic appendicitis, stating that a great many cases of right sided pain are not inflammatory, but evolutionary or degenerative, mentioning in order visceroptosis, mobile cecum, and in young girls, virginal ptosis. Apparently his surgical experience has been more in the upper abdomen than in the pelvis, as he reports that in his experience he has performed 1,738 operations for lesions of the upper abdomen, and 982 operations for appendicitis. Stress is laid on the fact that the appendix is a causative factor in lesions of the upper abdomen, and duodenal ulcer, cholecystitis and acute ulceration of the stomach bear a definite relation to disease in the appendix, either chronic or acute, these conditions either simulating each other, or co-existing. None of these writers stress x-ray findings, though their value is well established. Interesting statistics are recorded in each of these articles, probably influencing each in his conclusions, namely, that chronic appendicitis as a clinical entity does exist, but that utmost care must be exercised in diagnosis.

W. M. Scruggs, Charlotte, N. C.

#### THE USE AND INTERPRETATION OF BLOOD CHEMISTRY BY THE GENERAL PRACTITIONER

Edward H. Mason, M.D.

*The Canadian Medical Association Journal*, January

Those who do medical laboratory work appreciate the statement, "Primarily when any physician decides to have a blood chemical determination made he should have a clear idea of why he desires it." He should have a knowledge of blood chemistry in order that he may order blood chemical determinations intelligently, rather than in a hit or miss way."

The blood sugar ranges, normally, from 80 mg. to 120 mg. per 100 c.c. of blood. Sugar (glucose) is taken into the blood by absorption from the intestines and by conversion into glucose of stored glycogen. Glucose is removed from the blood by oxidation and storage as glycogen. The blood sugar level is maintained by the balance between these opposing forces. This balance may be upset by defective oxidation of glucose by the tissues, by defective storage as glycogen, by an excessive rate of absorption and by a too

rapid conversion of glycogen into glucose. As a result the blood sugar is raised. The balance may also be upset by excessive oxidation and excessive storage as glycogen which result in a blood sugar lower than normal. A normal glucose time curve determined after a fasting individual has been given 100 gm. glucose by mouth, shows a maximum rise in 30 minutes. This does not ordinarily exceed 180 mg. per 100 c.c. There is a return to the fasting value in 60 to 90 min.

In diabetes mellitus, since the absorptive power of the intestine for glucose is not impaired, the blood sugar rises rapidly after 100 gms. glucose is given. The maximum level is determined by the degree of impairment of insulin production by the pancreas. Since impaired insulin production results in defective storage of glucose as glycogen and in defective oxidation, the rate of decline of the blood sugar to the fasting level is much delayed.

In renal diabetes there is a glycosuria without the characteristic symptoms of the true diabetes and which is not appreciably decreased by cutting down the carbohydrate intake. It is caused by a local disturbance in the kidney. The sugar time curve after 100 gms. glucose are given is normal.

The glycosuria of pregnancy is a type of renal diabetes. The symptoms of true diabetes are absent, restriction of carbohydrates does not stop the glycosuria. The glucose time curve may show a very rapid rise or a slow rise but the return to the fasting level is markedly delayed. This indicates that there is defective glycogen storage, probably not due to the same cause as in diabetes mellitus since after delivery the glycosuria disappears.

In cirrhosis of the liver the factor of glycogen storage is impaired, glucose time curves like those in diabetes mellitus are obtained.

In hyperthyroidism a glycosuria may occur due to an excessive activity of the sympathetic nerve supply of the liver which results in the conversion of an abnormally large amount of glycogen into glucose. Glucose time curves like those in mild case of diabetes mellitus are obtained. The non-protein nitrogen includes the nitrogen in urea, uric acid, creatinine and amino acids. These are end products of protein metabolism which leave the body chiefly through the urine. Their

constant level in the blood is dependent upon kidney function. The kidney removes creatinine from the blood most easily, urea next and uric acid with greater difficulty. For this reason, when the impairment of kidney function is slight, urea and uric acid may be retained in the blood in excessive amounts while the creatinine remain normal. The creatinine is retained in the blood in abnormal amounts only when the degree of kidney impairment is more marked. The normal total non-protein nitrogen ranges from 30 to 40 mg. per 100 c.c. blood, the urea from 25 to 35 mg., the urea nitrogen from 11 to 17 mg., the uric acid from 1 to 3 mg., and the creatinine from 0.5 to 1.5 mg. In acute nephritis the creatinine remains normal but there may be a slight retention of urea and uric acid. In chronic non-inflammatory nephritis, associated with edema, there is not ordinarily any retention of the non-protein-nitrogen but in the productive or interstitial type there is a progressive retention of non-protein nitrogen.

In intestinal obstruction there is a retention of urea but not of creatinine. The same thing occurs in cases of severe burns. In prostatic hypertrophy, which leads to residual urine and back pressure, there is a retention of urea and uric acid but not of creatinine. In gout, in the leucemias and chronic arthritis the blood uric acid is increased.

The carbon dioxide of the blood is measured in order that the degree of acidosis may be determined. Carbon dioxide is present in the blood in the form of sodium carbonate and carbonic acid. When excess acids are produced in the body they must be converted into salts before they can be excreted by the kidney. A chemical reaction between these acids and sodium carbonate occurs, which results in the production of salts of the acids, carbon dioxide, and water. The carbon dioxide is lost through the expired air. The carbon dioxide capacity of the blood is measured by determining the absorptive power of the blood for carbon dioxide when it is placed in an atmosphere containing approximately the same percentage of carbon dioxide as the alveolar air, and then extracting the carbon dioxide in a vacuum. In diabetes and in nephritis an excess of acids is produced. Sodium carbonate is used to convert these acids into salts, therefore the car-

bon dioxide content of the blood is lowered. The normal is 50 to 65 volumes per cent.

The estimation of the quantity and type of bilirubin in the blood serum is of practical value in many cases. Van denBergh's qualitative test shows that there are two types of bilirubin which may exist in the blood. One of these is the type which has been reabsorbed into the blood stream after being prepared for excretion, due to obstruction of the common duct. This type of bilirubin produces the "immediate direct reaction." The other is the type of bilirubin produced by the breaking down of hemoglobin.

It produces the delayed reaction. Van denBergh's indirect reaction is given by either type of bilirubin. It is the reaction which takes place in his quantitative test. The standard which he uses has not proved to be satisfactory. For practical purposes Bernheim's icterus index is a better method of determining the amount of bilirubin in the blood.

Mason concludes that the employment, when indicated, of the above chemical tests will aid greatly in many differential diagnoses. But few single procedures in medical practice are diagnostic in themselves.

They must be properly interpreted in relation to the history and other findings. Only then can blood chemical findings be intelligently employed.

*Harvey P. Barret, Charlotte, N. C.*

#### THE PUPIL IN DIAGNOSIS

Thomas Hayes Curtin, M.D.  
*New York Medical Association Journal, January*

The author remarks that the older we grow in the practice of medicine the more apparent it becomes that medicine is more of an art than a science. He does not depreciate various laboratory procedures but insists that the art of observation, particularly for the minutest detail, is essential for a true diagnostician.

The writer very ably discusses the behavior of the pupil in health and disease and the impulses controlling the phenomena of pupil contraction, dilatation and rigidity.

For the proper interpretation of changes in the pupillary area it is necessary, as in any other organ, to know definitely its anatomy

and physiology, its normal state in health to discern the abnormal or pathological.

Irregularities in contour, position, color and size teach us to detect (assisted by other symptoms) at once profound systemic states as uremia, certain drug poisonings, grave brain states—as apoplexy, tumor, abscess, meningitis, multiple sclerosis, tabes and hysteria, as well as other emergency states—as shock, fatal syncope, epilepsy, tetanus and eclampsia.

In senility the capillary walls are less resilient and, since the iris is a vascular membrane, we find it stiffened from vascular sclerosis.

Normal pupils are influenced by light and shade, sensory stimuli, drug influence, emotions, bodily disease, sleep, coma and death, cerebro-spinal nervous states and diseases, various other conditions as refractive ones, the pupil is small in hyperopia and large in young myopes. We note that the pupils will contract in the light and expand in darkness. We also find that the pupil responds to the touch, as it were, for if the skin about the face or neck be irritated, or even if a painful inflamed part of the body like a rheumatic joint be pressed on, the pupil will dilate.

The commonest known pathological pupil is the Argyll-Robertson phenomenon, which is present in about 75 per cent of the cases of tabes; the pupils are contracted whether in darkness or light, do not contract to the light nor do they react when making the consensual test, but on employing the effort of convergence and accommodation they contract still further. This pupil also may occur in cases of paresis, multiple sclerosis and injuries to the spine.

Abnormal dilatation of the pupil (mydriasis) occurs in glaucoma, double optic nerve atrophy or total blindness from any cause which does not destroy the eyeballs. Mydriasis may occur where anything interferes with the function of the pupillary light reflex arc at any point from the retina up to the brain centers and down again to the iris. The commonest causes are paralysis of the third nerve from syphilis and ophthalmoplegia interna from degeneration of the cells in the pupillary center; from psychic or cortical influence as in maniacal or frenzied states of the mind; from temporary anemia of the brain, as in fainting when the reflexes are abolished tem-



porarily through heart failure, etc.; in paralysis of the brain, as in fatal syncope, overdosing with general anesthetics, on-coming death, etc.; locally from certain mydriatic drugs. Dilatation of the pupil also results from stimulation of the sympathetic nerve supplying the dilator pupillae, such as noted in sensory skin and painful pressure reaction, pinching the superior cervical sympathetic ganglion or sticking pins in it, as in a case of hysteria in a nurse who wanted to be operated on for imaginary brain abscess; spinal irritation from any cause such as traumatism, myelitis, spinal meningitis in early stages, gastric and intestinal disturbances, which incite unconscious states.

Contraction of pupils (miosis) is found in all inflammatory conditions of the eye—as iritis, ulcers and abrasions of the cornea from congestion of the iris blood-vessels and reflex sensory irritation. The one exception is acute glaucoma. It occurs in plethoric states of the brain—as acute high fevers, acute meningitis from any cause, uremia, alcoholism, etc.; in paralysis of the sympathetic from any cause, be it central, intermediate or peripheral; from certain drug influence; from poisons, inwardly, as opium and its salts, etc.

We should keep clearly in mind that paralysis of the sympathetic nerve from any cause contracts the pupil to a pin point (spinal miosis) and paralysis of the brain causes widely dilated and fixed pupils; while stimulation of the spinal cord causes dilatation, and stimulation of the brain causes contraction, of the pupil. In giving general anesthetics, we must decide whether the sudden dilatation of the pupil, sometimes present, is due to spinal irritation from gastric disturbance or whether there is oncoming paralysis of the brain. In suspected poison cases we must decide whether the contracted pupil is from opium or from uremia. In suspected "drunks," whether the contracted pupil is from meningeal irritation due to apoplexy, uremia or sunstroke. We must look at the pupils in suspected acute tuberculosis or pneumonia of one lung, for that slight dilatation is a diagnostic sign. We must note and understand that hippus is present in hysteria, chorea or mania, the widely dilated pupils due to increased brain pressure in brain tumors or brain abscess, the dilated pupil on one side in hemorrhage in one hemisphere of

the brain, the Argyll-Robertson pupil in spinal syphilis, the unequal, deformed, and more or less fixed pupils in general paresis or cerebral syphilis, the normal pupils in sham fits.

Inequality of the pupils (anisocoria) occurs in healthy persons. If not associated with pathological conditions, it may be due to different refraction of two eyes, unequal illumination, unlike conditions—adaption of the retinae, inequality of action to closure of lids.

Anisocoria in some cases is due to irritation of the sympathetic, which is the enervation of the dilator of the pupil, illustrated by enlarged glands of the neck, aneurysm of the carotid.

A. A. Barron, Charlotte, N. C.

#### THE DIAGNOSTIC VALUE OF DUODENAL DRAINAGE IN GALL STONE DISEASES

G. M. Piersol, M.D., H. L. Bockous, M.D., and  
Harry Shay, M.D., Philadelphia  
*American Journal Med. Sciences* for January

The purpose of this paper, according to the authors, is to emphasize the importance of the examination of bile sediment in particular, and bile drainage generally in the diagnosis of gall stone disease. They further feel that cholecystography does not supplant duodenal drainage in the diagnosis of gall bladder disease.

Their studies concerned 57 cases of surgically proven gall bladder disease. Forty-six of these were cases of cholelithiasis.

They wish to call attention to the finding in the "B" fraction of the bile of a pigment called bilirubin calcium and also of cholesterolin crystals. This pigment appears as a lustrous, golden yellow, more or less granular precipitate and varies from a pale yellow to a deep orange. The appearance of these crystals together or alone in the duodenal drainages is very suggestive of the presence of gall stones. In their series of 57 cases subjected to gall bladder operations, cholesterolin crystals alone were found in the bile by duodenal drainage, 6 times. Four of these cases had stones at operation. Bilirubin calcium was found alone in the bile from the duodenum six times. Four of these proved to have stones. Cholesterolin crystals and bilirubin pigment were found in combination in

23 of the 42 stone cases. Gall stones have been present in every case operated so far in which these two elements were discovered together, this gives a percentage of 73.8 per cent.

In testing the gall bladder function, they found that of 20 cases on which duodenal drainage was attempted, no gall bladder bile was obtained in 17 cases, and on operation gross disease was found which could be assumed to account for the complete absence of the gall bladder function. Therefore the duodenal tube finding of absent gall bladder bile was confirmed at operation in 85 per cent of the cases. Where the bile was obtained through the duodenal tube in 30 cases,

this finding was corroborated at operation in 90 per cent of the cases.

In a small series of 12 cases in comparing the comparative value of oral-cholecystography and duodenal tube findings, in only 35 per cent of proven gall stone cases were the stones visualized by the former whereas in the same series 47 per cent were diagnosed by the duodenal tube. One of their conclusions is as follows: "We feel justified in re-emphasizing the value of importance of properly carried out duodenal biliary drainage in the diagnosis of gall stone disease. We believe that it has not been supplanted by any other diagnostic procedure."

*D. Heath Nisbet, Charlotte, N. C.*

#### THE FUNCTION OF THE EPIGLOTTIS

Editorial, *Boston Medical & Surgical Journal*, Jan. 19, 1928

For many years it was thought that the epiglottis acted as a flap over the laryngeal aperture and fell back during deglutition in order to prevent ingress of food or water. This view has now been disregarded as it has been found that during swallowing the epiglottis actually moves forward against the base of the tongue. In patients whose epiglottis has been destroyed by disease the power of swallowing remains unaffected. In many of the lower animals, moreover, no traces of this organ can be found, yet they swallow easily. It has been shown, also, that the epiglottis is not needed during forced respiration, nor is it needed for phonation. Many song birds have no epiglottis at all.

These points have been discussed in the

introductory paragraphs of a paper by Négus\* who points out that the epiglottis is best developed in such animals as the deer and antelope. He believes that the structure is an accessory olfactory organ and that "its primary function is to aid certain species which rely on powers of scent, sometimes for their actual existence." When the mouth is open in eating, the epiglottis prevents the air from entering the mouth by shutting off the buccal cavity and ensures that all inspired air shall enter by the nose, thus passing over the olfactory mucous membrane. Most animals, therefore, which are keen scented have a well developed epiglottis, as well as a long, soft palate. By coaptation of these two organs, air is prevented from entering by the mouth. This function is especially useful in macrosmatic animals; in man, who belongs to the microsmatic species, both structures are relatively deficient.

\*The Function of the Epiglottis. *Journal of Anatomy*, 1927 LXII, 1-8.



SOUTHERN MEDICINE AND SURGERY

Editor  
JAMES M. NORTINGTON

Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	Human Behavior
FRANK HOWARD RICHARDSON, M.D.	Black Mountain, N. C.	Pediatrics
W. M. ROBEY, D.D.S.	Charlotte, N. C.	Dentistry
J. P. MATHESON, M.D.	{ Charlotte, N. C.	Diseases of the Eye, Ear, Nose and Throat
H. L. SLOAN, M.D.		
C. N. PEELER, M.D.		
F. E. MOTLEY, M.D.		
J. L. MILLER, M.D.	Gastonia, N. C.	Orthopedic Surgery
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	Urology
JOHN D. MACRAE, M.D.	Asheville, N. C.	Radiology
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	Dermatology
PAUL H. RINGER, M.D.	Asheville, N. C.	Internal Medicine
GEO. H. BUNCH, M.D.	Columbia, S. C.	Surgery
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	Therapeutics
HENRY J. LANGSTON, M.D.	Danville, Va.	Obstetrics
CHAS. R. ROBINS, M.D.	Richmond, Va.	Gynecology
JOHN B. CHAMBERLAIN, M.D.	Charleston, S. C.	Neurology

TULAREMIA

Doubtless many others beside ourselves have wondered mildly about this name, and been too lazy to look it up. The *Journal of the Tennessee Medical Association*\* kindly supplies this interesting bit of information. A certain bacterium discovered in 1912 in ground squirrels of Tulare county, California, was found in the blood of patients afflicted with a disease, which had not been christened; hence *tularemia*. The county is said to have got its name from the Spanish word for the bulrush which abounds there.

At our Fayetteville meeting (1926) Drs. Davis and Vander Hoof discussed this disease and reported a case from Surry county, Va.; Dr. W. R. Wallace reported two cases from Chester, S. C.; and Dr. T. A. Hathcock reported one from Norwood, N. C.

We know how easy it is to make a wrong diagnosis for the sole reason that the correct one is not even considered as a possibility.

Tularemia derives its greatest interest from the fact that it is killing folks in our territory. The disease occurs in ground squirrels, wild rabbits and hares, and other rodents, and is transmitted to man by bites of

blood-sucking flies or ticks, or by contamination of hands or conjunctiva with body fluids of infected rodents, flies or ticks.

A number of cases have been reported in our territory and the disease should always be thought of as a possibility when suggestive symptoms develop in a person who has been exposed to any of the methods of infection.

The incubation period is said to average three days (one to nine days), the onset to be abrupt with headache, chilliness, fever, etc. Within two days pain is felt in lymph nodes into which the infected area drains, and a bit later at the site of infection, where a papule appears with a tendency to necrosis. The constitutional symptoms are those usually associated with acute fevers. In some cases the general symptoms so far overshadow the local as to cause a suspicion of typhoid.

The initial fever lasts about two days; subsidence occurs, followed by a rise to the original height from which there is a gradual decline; the whole febrile period being two to three weeks. Other symptoms usually correspond with the fever. Leucocytes are moderately, if at all, increased. Mortality is put at four per cent.

To be remembered in the diagnosis are:

\*From this journal a good deal of what is to follow is taken.

To be remembered in the diagnosis are:



contact with rabbits; tick or fly bites; papular skin lesion, or a conjunctivitis associated with persistent enlargement of the regional lymph nodes, and fever.

It would be well for every doctor to make it known in his community (Chatham county please note especially) that the mild mannered bunny is not as innocent as he looks, and that rubber gloves should be worn during the skinning process and in handling of the raw carcass or green skin. *This bacterium appears to be able to penetrate the unbroken skin.* Cooking removes all danger of infection. There is no specific treatment. Rest in bed, relief of symptoms, incision of nodes only when softening of overlying skin occurs—these measures about exhaust our present powers.

#### OUR MEDICAL EXAMINERS

North Carolina was among the first of the states to erect an agency for passing on the qualifications of those who sought the privilege of treating the sick for pay. This agency was erected at the instigation and through the labors of her doctors. The motive was at once protection of the sick from the ignorant and the unscrupulous, protection of the good name of *doctor*, and protection of doctors from the necessity of association on equal terms with the ignorant, the vulgar, the dishonorable, the criminal.

All the way from 1859 to 1928 the state has been justified in the pride it has taken in the gentlemen of medicine who have served on these boards. The list reads almost interchangeably with that of the most respected and revered among our doctors. And no board more than the Eleventh, on which served W. P. Holt, J. G. Murphy, C. A. Shore, L. N. Glenn, W. M. Jones, L. A. Crowell and, as highly efficient secretary, K. P. B. Bonner—took its duties seriously, and discharged them wisely, courageously, and patriotically.

These things being true, newspaper attempts at disparagement came with poor grace. Dr. Bonner's letter, containing the facts, published in the Greensboro *News* of January 20, will be seen by very few. The front page, big-headline stuff of many papers, made up largely of misinformation, was read by the many, in probably a ratio of 100 to 1. Is this the manner in which newspapers

discharge their function as "channels of information?"

By a unanimous vote, six estimable doctors from widely separated areas of the state, in the discharge of their office of deciding who are proper persons to go in and out of our homes as practitioners of medicine, recorded it as their opinion that, in this instance, such privilege should be withdrawn. By a court decision which virtually deprives the State Board of Medical Examiners of all power, and, in the words of Dr. Bonner, "empowers the courts to grant a license to practice medicine," the action of the board was nullified; and by the well, if not favorably, known expedients of "wearing it out in the courts," "waiting for witnesses to scatter or die," etc., etc., decision has been delayed till the then board is out of office. There is a deep meaning in the fact that our substitute for the French *Palais de Justice* is *Court House*.

What may be learned from this fiasco, and what done about it? Two things:

First, that doctors all over the state, as individuals, as county societies, as district societies, and as a state society, should back up the Board of Medical Examiners in its efforts to keep the standards of medicine high;

Second, that we should take steps toward having no more than two members of the board elected in any one year, thus assuring that four of the members shall at all times be entirely familiar with all the activities of the board, and thus prepared for long-sustained efforts.

#### BUYING IN YOUR OFFICE

Doctor, how many things have you ever allowed yourself to be persuaded into buying, by an agent, that you have not sincerely regretted buying? Is it not true that, with the exception of representatives of book publishers and instrument and office supply dealers who call on you regularly for mutual convenience—nine times out of every ten that you have paid out money or signed on the dotted line at the requests of agents coming into your office to sell you something, you have lost by it?

A doctor's office is hired and maintained for the conduct of his business, not the conduct of the business of every Tom, Dick and Harry who chooses to come in and take up

his time. These can hire space and let it be known that they are selling shirts, windshield wipers, oil stock, lots, attachments to make your car go thirty miles to the gallon, or what not. Then, if you are interested, you will have no difficulty in effecting contact. When some agents come in it is very difficult to break contact.

Some of them insist you owe them a hearing, and insist with all the pertinacity which has been instilled into them by lectures and treatises on "high-powered salesmanship."

A good many months ago two well groomed, smooth spoken men, wearing emblems of a popular fraternity, came into our office and asked politely for a few moments of our time. Having long ago learned not to pit our wits against one—let alone two—of this gentry, and so knowing that our immunity was as complete as that of a salamander is said to be from fire, ear was lent. Stock was being offered to "a few carefully selected, representative persons." The company was one which had made phenomenal profits and "owned real estate assessed at more than the amount of stock to be offered for sale." The need was for "capital for expansion." A request for a copy of a recent report to the Corporation Commission brought forth the remarkable answer that it was being prepared, and what purported to be a phone message from our office to verify the statement. They promised to return but they have not done so. Within about three months the company was in bankruptcy and some of our good friends being sued on notes given for stock.

Our idea is that it would be far better for all us doctors if we would *buy* things we want, instead of allowing ourselves to be *sold*. Almost invariably, if we have not recognized our need of any certain thing until some agent bent on selling that thing suggests to us that we need it, we have no real need of it, and will rue buying it.

We practice and suggest: Use your office for the conduct of your own business exclusively; buy only things (with exceptions noted) of which you have felt the need, without suggestions from agents—then *buy*; don't *be sold*; consult your banker before buying stocks, bonds or real estate;—then, sleep on it before signing note or check.

#### PRESIDENT CROWELL

The elevation of Dr. A. J. Crowell to the presidency of the North Carolina State Board of Health meets with approval which is general and enthusiastic. When the names of Dr. Crowell and Dr. Cyrus Thompson were mentioned for the vacancy made by the death of Dr. J. Howell Way, it was generally agreed that either selection would be an admirable one, and that there would be no contending for the post.

After seven years of service as a member of the board Dr. Crowell assumes its presidency with the united support of the board and the doctors of the state. Our own confidence in the success of his administration of our health affairs grows out of knowledge of the energy, the zeal, the fairmindedness, and the openness to conviction, which account for the notably successful achievements already to his credit.

The popular, cheap, meaningless, blatant pronouncements about "Service" strike us as, not only foolish and hypocritical, but as actually sacrilegious. The spirit of service which animates Dr. Crowell inspires in us the greatest respect, the highest admiration and the deepest confidence.

---

#### PREVENTING PERINEAL LACERATIONS

Any so-called support of the perineum (upward pressure upon it, dilatation of the vulva, etc.) is worse than useless and a violation of the natural mechanism which tends to a false position and inevitable laceration.

Lacerations of the perineum are of two kinds: one common and one extremely rare.

The common type is wholly due to the head being allowed to start flexion too early, thereby widening the vulva before the central point is sufficiently outward and downward. This puts a tension on the combined tendons of the central point. If kept up a tear starts, to one or the other side between the point and the insertion of the sphincter vaginae, as mentioned, extends downward and outward, as strand after strand of the levator ani rupture, until the space is sufficient to pass the head, not through the anterior triangular structures, but through the structures of one-half of both triangles, the other side being pushed to one side. This tear may go into the ischiorectal fossa or may follow between a bundle of the levator ani fibers and

rupture the sphincter ani and rectum.

The rarer type of laceration is about as follows: The head comes down normally and well flexed, but does not seem to push the point downward or slip forward. The perineum is widely extended and the skin above the anus is stretched until shiny. Without further warning, the skin will split between vulva and anus. I can describe it no better than to say that it slowly parts as if it were wet blotting paper—the skin pulling apart before the muscle yields. I know of no way to prevent this, though by experience one can anticipate it. I reserve episiotomy for this condition and do not consider it justified in the other type of laceration. Without episiotomy, this tear runs into the ischio-rectal fossa before the transversus perinei parts, and is always extensive and severe. One might attribute it to excessive biparietal diameter although measurements of the head afterwards have not borne this out. I have had too few to express an opinion as to its causation. It has seemed to me that it was always in elderly primiparae, as a rule constipated for years, and it may be that the strength developed to support the rectal weight, with the possibility of some scar tissue as the result of mild inflammation, may be blamed for the accident.

A hint may be gained from what we can be certain happened when our ancient arboreal ancestress had her first baby. The pains of the first stage drives her to a secluded cavern. In the second stage she squats down and, when the vulva gaps, pushes down. Pushes on what? The perineum? Never; that would hurt; but on the hard occiput, thereby keeping it in flexion and preventing its rapid advance. This she will do until it cannot be done longer, and she sinks to the left knee and to her side, while still holding up the head so it will not press upon the perineum, thereby delivering the posterior shoulder first, and the baby slips up her left thigh and into her arms. It at once begins to nurse, which the sooner separates the placenta. Fanciful? Perhaps, but we all know how hard it is to prevent the woman from putting her hands on the vulva as the head dilates the canal.

Now how are we, the enlightened aiders of Nature, to act and how prevent the many lacerations, which are a disgrace of obstetrics

today? If the attendant will keep the head flexed by pressure on the occiput through the vulva as soon as it opens sufficiently, and so retard delivery, since the head cannot pass until extended, the central point will be forced outwards and downwards. There will come a time when he can remove his pressure and see the head roll out between pains by the perineal tension as it retracts itself over the head. He will seldom have a laceration. This takes time, but time should never be an object when attending a case of labor.

Since getting this insight into the cause of lacerations I do not have one where I had dozens before. One has no right to lightly dismiss a laceration as an accident that all have. It should be the unexpected and rare. Each should demand careful analysis of the methods used and why it happened. It is not a trivial, but a very serious, thing, and has many very serious after-consequences. It is worth more to a woman to have her first child normally than to have a successful gastro-enterostomy, and should be equally well rewarded.

There are an appalling number of lacerations today, most of which are preventable. I have taught, written, and thought obstetrics for many years and consider this simple method of preventing lacerations as the crowning of all my activity. I have written and preached it for some years, but have never succeeded in getting even my friends to regularly follow the method. All I ask of you is to carefully grasp the anatomy and try it for yourself. The procedure is perfectly harmless and I absolutely believe it will prevent ninety per cent of all tears at labor.

—R. Cadwallader in *Compend of Med. and Surg.*

#### OUR SENTIMENTS EXACTLY

Probably anybody, even the most ardent pacifist, would be measurably reconciled to war if he could choose the persons to occupy the front ranks in the fighting units. For example, I feel that I would rather like to see hostilities opened with some competent foe if our shock troops could be made up of drivers who toot horns excessively, writers who use the word *outstanding* and talk of *Turkey Day* for Thanksgiving Day, long-winded introducers, organizers of superfluous leagues and associations, and people who are always arranging unnecessary meetings of one kind or another.—Halifax Jones in *Chapel Hill News*.



High Point, N. C.,  
February 1, 1928.

Editor, *Southern Medicine and Surgery*,  
Charlotte, N. C.

My Dear Dr. Northington:

Permit me to congratulate you on the splendid editorials which you have given, and upon the frank way that you have presented your ideas to the profession.

The articles have been well selected and the journal has made wonderful improvement in the past few years. So much so that I take this opportunity of recommending it to every doctor in North Carolina and in addition to this every member of the Tri-State Medical Association.

The discussions appearing in the journal have been well worthwhile.

In North Carolina it is our only medical journal and the only periodical that the doctors of this state have to keep in touch with each other, and subjects that are most interesting.

The North Carolina Medical Society is a wonderful organization. The doctors of this good state are of the highest type; well educated, sincere in their work and capable of doing anything that they undertake.

Hundreds of cases are leaving North Carolina each year for treatment elsewhere. These cases could be handled just as well in our home state. I know of no condition today that can not be satisfactorily treated by our own medical profession. The patient and profession would profit if this could be done. Your work along this line has been invaluable.

Those who are doing special work are advancing rapidly in their chosen lines. They should have support to the fullest extent.

May I express a wish that the medical profession of this state will rally to your journal, giving every support that you may continue to give us a medical journal that we should all delight in supporting.

Sincerely yours,

J. T. BURRUS.

---

FOR ABOLISHING STATE TAX ON DOCTORS

The Iredell-Alexander County Medical Society, in regular session December 7, 1927, assembled, hereby resolves:

That whereas, the members of the medical

profession are rendering through the practice of their profession a vitally necessary service to humanity, with the paramount thought of rendering a distinct service and aid and not that of pecuniary reward, yet realizing that adequate compensation for their professional services is essential for them as is an adequate compensation essential for the services of other citizens of the various professions and occupations:

However, as the medical practitioner heeds the call of suffering mankind, looking toward the relief of distress and suffering first, and to his compensation last, it is readily seen that a great amount of his service goes to those who have not an abundance of material goods and who are unable to pay even the smallest of fees, which, in its final analysis, is a gift by the medical practitioner to his fellowman, his county and his state, for by his giving relief to those in sickness and pain, who are unable to pay for such relief, the county and state are saved a great expense.

So great, however, has become the demand upon the medical practitioner for his professional services for the aid of the indigent sick that his services, for which he is uncompensated financially, forms a large percentage of the annual amount of work that he does. This expense is further enlarged by necessary supplies and other expenses that he is called upon for in answering such calls.

Therefore, in consideration of the aforementioned service and large expense that the medical practitioner has in connection with such service, which is a financial loss to the medical practitioner and a saving for the county and state: It is hereby resolved that the Iredell-Alexander County Medical Society go on record as favoring and requesting the State of North Carolina to abolish the state tax on all medical practitioners and by so doing aid to relieve them from the excessive financial burden that they now have.

Be it further resolved that a copy of this resolution be spread upon the minutes of this meeting and that a copy of such be sent to the following named persons: The Governor of North Carolina, the Speaker of the House of Representatives, the President of the Senate of North Carolina, the President of the North Carolina State Medical Society, to be presented to the House of Delegates at the

next annual meeting, to each member of State Medical Legislation Committee, to the secretary of each medical society in each county, to the editor of *Southern Medicine and Sur-*

*gery*, and to the Associated Press.

*Dr. S. A. Rhyne*, President;

*Dr. Roy C. Tatum*, Secretary.

## DEPARTMENTS

### HUMAN BEHAVIOR

JAMES K. HALL, M.D., *Editor*  
Richmond

#### ABOUT OBTAINING RECOGNITION

I have little doubt that many of the contributors to this journal find themselves wondering why no reference is ever made to it by the *Journal of the American Medical Association*. A review of the table of contents of *Southern Medicine and Surgery* for the last few years will disclose the fact that some of the best-known medical men in this country have contributed to its pages. The official organ of the American Medical Association professes to list all the worth-while medical literature published in the world. Exclusion from its listings and reviews of all the matter published in *Southern Medicine and Surgery* is proof conclusive that the index medicus is known by the editor of *The Journal of the American Medical Association* to be incomplete.

A few years ago a well-known specialist read a thoughtful and well-written essay before the Tri-State Medical Association of the Carolinas and Virginia. His essay was published in *Southern Medicine and Surgery*, but it was neither reviewed nor listed in *The Journal of the American Medical Association*. The essayist asked the editor of *The Journal* for the reason for the absence of reference to his thesis. Dr. George H. Simmons replied that *Southern Medicine and Surgery* was an unethical journal and in consequence of that fact was not recognized by publications of the American Medical Association.

The essayist acquainted me with the statement of the editor of *The Journal of the American Medical Association*. Imme-

diately I asked Dr. Simmons for the reason for his stigmatizing remark about *Southern Medicine and Surgery*. He replied that the advertising pages of *Southern Medicine and Surgery* made it unethical. I mailed to him a copy of *Southern Medicine and Surgery* and asked him to be kind enough to go through its advertising pages and cross-mark all the unethical advertising matter. He did that. Immediately I mailed to him a number of other medical journals which carried the advertisements he had condemned in *Southern Medicine and Surgery*. These journals were, without exception, reviewed by *The Journal of the American Medical Association*. I asked Dr. Simmons for an explanation of a situation and an attitude that I could not understand. He replied that he had neither the time nor the inclination to carry on a useless correspondence. But I had not become so tired of writing as Dr. Simmons. I had become interested in him, the chief vocal and scriptorial unit of the largest organized group of medical men in the world. I knew that many doctors and many medical bodies sought advice of him about medical ethics. I had long been interested in the great teacher of ethics. I was interested in knowing what kind of man the head of the American Medical Association was. I had no difficulty in assuming that he must be in some measure the product of his early educational opportunities. An inquiry addressed by me to the proper authority in the State of Illinois brought back to me the statement that Dr. Simmons had been graduated from a Homeopathic Medical School, and that after having practiced for several years he had been graduated from a regular medical school. And then I remembered that not long prior to that time a doctor of good character and

good medical attainments had been denied admission into a local medical society probably because in his young manhood he had been graduated from a Homeopathic school although he had later taken the medical degree from one of the oldest medical schools in the United States.

A few months ago I was notified by a medical journal owned by a state medical society that the advertising rate in it of an institution with which I am connected would have to be increased. And then I found out that a bureau of the American Medical Association gets twenty per cent, I believe, of all the income from the advertising pages of that particular journal. And then it became easier for me to understand why *The Journal of the American Medical Association* beams benignly on the state medical publications and frowns with profound disapproval upon independent medical journals. And then I remembered that long ago some wise one recorded the observation that the love of money is the root of all evil. And my final conclusion was that all these matters should be placed in typed form before the readers of *Southern Medicine and Surgery*. And lastly, I find myself wondering if all the state-society medical journals turn over to some bureau of the American Medical Association a definite percentage of their advertising-income.

[In his Presidential Address before the Medical Society of the State of North Carolina (1926), Dr. Wm. deB. MacNider said: "I have no hesitancy whatever in expressing my opinion of this journal [*Southern Medicine and Surgery*]. It is splendidly edited; most of the papers which appear in it are of the very first quality; the advertisements it runs are, so far as I can see, of an ethical nature . . . . Under the editorship of Dr. J. M. Northington this journal has established itself as one of the best medical journals of a local character." So speaks an internationally famous doctor who has walked blamelessly and honorably among us through all his years. Photographic copies of blatant advertisements in a Nebraska newspaper of Dr. Geo. H. Simmons as a specialist in Diseases of Women and Children who had recently taken a course in Rotunda Hospital, Dublin, have recently been published. Whose opinion would you value more on a matter of ethics

(or any other for that matter), Dr. MacNider's or Dr. Simmons'? Our own file of correspondence with the *Journal of the American Medical Association*, which is hereby proffered to any one interested, reveals much of disingenuousness, not to say duplicity.—J. M. N.]

#### ON SOME OLD GRAVE-YARDS AND VITAL STATISTICS

"Unawed by Opinion,  
Unseduced by Flattery,  
Undismayed by Disaster,  
He confronted Life with Antique Courage."

Those splendid lines are graven on the plain marble slab standing at the head of the grave of a great man lying in the churchyard of old St. Michael's in Charleston. And the lines epitomize the character of the old city, as well as of the dead jurist. Charleston stands out calm and serene in the turbulence of modern life, quietly proud of her career, but unboastful of her past, undismayed by all the disasters that have assailed her, and she is without apprehension about her future. I believe I never visit the old city without being improved spiritually. I admire her individualism, I glory in her courage, I am soothed by her gentleness and her gentility, and I envy her complacency and her self-satisfaction. She has repeatedly suffered exsanguination in defense of her opinions.

Her old grave-yards tell wondrous tales of endurance and heroism. But they tell tales, too, of many a mother's anguish and many a father's sorrow. They are rich in mute vital statistics. John Caldwell Calhoun died fairly old in years, and so also did James Louis Petigru, but the thick-set headstones in old St. Philip's and St. Michael's bear tragic evidence that in pioneer days death came generally in mid-life, or in childhood, or in infancy. Seldom could I find on a tombstone an age beyond sixty; many died in the flower of youth; and many more in infancy and in childhood. Mothers must have known that the majority of their children would be buried before they had reached the age of three years. Many a many-sided gravestone stands over the final resting place of a number of children of the same family. Year after year death carried child after child from the same home. Many a matron went to her tomb in her twenties or thirties. Lusty youth was unable to stand out against the prevailing



diseases.

Charleston was a city of wealth, culture, and refinement. The graves in the old cemeteries there must have been marked with care. But in the remote rural regions many a pioneer must lie in an unmarked grave. The vital statistician could find occasion for thoughtful reflection in those old grave-yards. Why did so many children die? Why did so few of the people reach old age? What diseases, sporadically or in epidemic form, carried off the inhabitants? And if the people in a city such as Charleston suffered so tragically from sickness, what must have been the situation far out in the pioneer country? Charleston was relatively rich, her people were highly intelligent and liberally educated, and she was generously supplied with well-trained physicians. Servants were, of course, abundant. Was the death rate amongst the colonists generally so high? Did the large majority of all the people die in infancy and in childhood? Was old age rarely reached? If the death rate amongst the best people in Charleston was enormously high, what was the situation amongst the negro slaves? Did they possess some degree of immunity against the prevailing diseases? Were the ranks of the Indians constantly being thinned by the prevailing sicknesses?

The calm courage of the pioneer mother is the finest thing in our American history. While her husband was battling against the enemy—the Indian, the Spaniard, the French, the British—she was arraying her skill and her courage silently but vigilantly against microbic assaults upon her infants and her children. And her assailants were more persistent, more insidious, and more deadly than the wild beasts and the wilder savages that ambushed her husband. An infinitesimally small percentage of the children born in colonial days in the southern coastal region could have reached adolescence. Gastrointestinal infections and various other epidemics must have carried them away by the hundreds. Had life-certainty in the South for the two-hundred years preceding the Civil War been what it is today the army that followed Lee might have been so inexhaustible in numbers as to have made the outcome of that great struggle radically different. Modern medicine has waged no more successful

assaults against disease than in the Southern lowlands.

## PEDIATRICS

For this issue, G. W. KUTSCHER, M.D.  
Swannanoa, N. C.

The editor for Pediatrics of *Southern Medicine and Surgery* has felt deeply that one of the big needs of pediatrics today is less slavish allegiance to authorities, and more original thinking documented by careful records. In no portion of the field of pediatrics is this truer than in that of infant feeding.

Some time ago the experience of a man in northern New York State was brought to the attention of this writer. What he thought, felt, and dared to carry out in practice, seemed so stimulating in its simplicity and its eminent common sense, that a record of this personal experience was secured, in order that it might be laid before the readers of this column. The report of Dr. W. B. Hambridge, of Ogdensburg, New York, is here given in full:

### INFANT FEEDING WITH UNDILUTED COW'S MILK

The subject of this paper, "Infant Feeding With Undiluted Cow's Milk," has occupied the attention of the writer for a great many years, and was brought about in the following manner:

Some nineteen years ago, twin babies, one weighing three and one-half, the other four and one-half pounds, were brought to the Ogdensburg City Orphanage, and placed under the care of one of the Sisters. She fed undiluted cow's milk slightly sweetened, and when I tried to convince her that the milk should be modified, she assured me that she had fed babies on undiluted milk and they were all fine, healthy children. As the twins were thriving, she certainly had, at that time, the best of the argument. I looked for them to sicken and perhaps die; but, to my surprise, they continued to thrive and became strong, healthy children. Other infants were brought up in the same manner by this Sister until they finally numbered ten.

Ten healthy children fed contrary to our ideas of infant feeding were certainly a great surprise to me, but I did not feel justified in trying the method on my patients when

all writers on the subject asserted that whole milk was not a proper food for babies. If I had prescribed such a diet at that time, and the infant had died of gastro-intestinal disease, I would not have considered myself blameless, and I felt quite sure that in this the mother would certainly concur.

*Cases 1, 2 and 3.*—However, when I was called to see an emaciated infant three months old, on whom a great many foods had been tried, and who at that time was on modified milk, but losing flesh and vomiting frequently, I explained to the mother my observations on whole milk at the orphanage, and as the case was desperate she was willing to try it. Half an ounce of milk was given every two hours at first, and to our surprise was retained. The quantity was increased and interval lengthened. The child gained in weight and strength from the first and became so vigorous that a few months later it withstood an attack of whooping-cough complicated with broncho-pneumonia. The mother of this child assures me that since then she has had two babies whom she brought up from birth on whole milk, and they were healthy children.

*Case 4.*—This was the mother's sixth child and she had not been able to nurse any of them. Three of her children had been reared with great difficulty and two had died of gastro-intestinal disease. The mother, after such an experience, was willing to try anything that promised better results, and when I told her my observations and experience with whole milk, she took the responsibility and put the infant on it. The baby was given half an ounce not oftener than every two hours, and as a rule not until it acted hungry. The quantity was gradually increased as the child became older. I may say this infant never had a sick day, was happy and strong, weighed nineteen pounds when six months old and twenty-five pounds at nine months.

*Case 5.*—Weight at birth five pounds. Breast fed for eight weeks when it weighed five and one-half pounds. Mother said "It was crying day and night." Was given undiluted cow's milk

and immediately improved in every way. In three months it weighed fourteen pounds, a gain of eight and one-half pounds in thirteen weeks. At seven months it weighed sixteen pounds and consumed thirty-two ounces of milk in twenty-four hours.

*Case 6.*—Mother fed it a proprietary food for two weeks. Child had diarrhea. She then tried milk one part, water two parts, with cane sugar. Infant had colic and vomited some. When I saw the child it was four weeks old and although the mother did not know its weight at birth, she said it did not look as if it had gained any. An ounce of whole milk not oftener than every two hours was prescribed, and gradually the interval was lengthened and the quantity increased. Child commenced to thrive and when three months old weighed twelve and one-half pounds. It was well until the fourth month when it had a severe attack of vomiting and diarrhea which may have been due to over-feeding or milk from new milch cows, as it was in May when many cows in the herd from which the milk was taken were freshening. For two months the mother tried a great many foods, but the diarrhea persisted and then she consulted me again. I found it at six months weighing twelve pounds, which was one-half pound less than it weighed when three months old. In three weeks the diarrhea was controlled and whole milk was again tried with the result that the child gained four pounds in a month, weighing sixteen and one-half pounds when eight months old, which is an average weight for a child of that age, although it had lost a pound during the three months it had been ill.

*Case 7.*—Was fed a commercial food for a month, had diarrhea and cried a great deal, then it was given milk one part, water three parts, with a little sugar for a week. Diarrhea continued and baby was very cross. It had not gained in weight in five weeks. The above was the history given by the mother when I was first called to see it. Undiluted cow's milk was prescribed; child became quiet; diarrhea soon stopped; weight increased to fourteen pounds at end of third

month. Mother then commenced to feed it too frequently. It did not vomit but had diarrhea. Interval of feeding lengthened and diarrhea stopped. Since then it has been a fine, healthy child.

*Cases 8 and 9.*—These were twins. Modified milk was tried for three weeks but they were colicky and did not gain in weight. Whole milk was used for one week, they gained a quarter of a pound each but were constipated and were cross at times. Mother did not wish to continue the food longer.

*Case 10.*—Three months old infant. Nursed one week, commercial food for five weeks. Had diarrhea and lost flesh. Then milk, water and lime water. Diarrhea continued off and on. Two and one-half ounces of undiluted milk were given every three hours. Bowels improved in twenty-four hours. Child became quiet and commenced to sleep well. Quantity of food was increased and child continued to do well.

*Case 11.*—Weight at birth, nine pounds. Top milk and water equal parts had been given after the first week, then top milk two parts, water one part. Child vomited and had diarrhea, cried a great deal. Gained only a pound in nine weeks. Barley water was prescribed for two days, then whole milk two ounces every three hours. Child commenced to improve at once in every respect, but the mother lessened the interval and increased the quantity in order to satisfy the child. It gained five pounds in six weeks, weighing fifteen pounds when four months old and consumed twenty-eight ounces of whole milk. Sugar was omitted in this case as it produced diarrhea. It has since been a healthy child.

*Case 12.*—Breast fed, supplemented by whole milk first month. Since then whole milk. Weight at birth six and a quarter pounds, at fourth month, fourteen pounds. It has continued to grow and is now a vigorous child.

*Case 13.*—Whole milk from birth. Did not seem to thrive as well as it should. Was put on modified milk. Have not been able to follow up this case.

*Case 14.*—A trained nurse cared for

it for six weeks. It was fed on top milk one part, water three parts and sugar of milk. Was very colicky, crying a great deal. Gained one and one-half pounds in six weeks. Seventh week water was reduced so that dilution was one part top milk and one of water. Gained in weight nine ounces and cried less. Eighth week on top milk without any dilution, gained one pound and continued to thrive and is now a healthy child.

*Case 15.*—Breast-fed first month, supplemented by whole milk, then whole milk. Weight at birth seven and one-half pounds, at sixth month twenty pounds and consumed forty-five ounces of whole milk in twenty-four hours. Is still thriving.

*Case 16.*—Modified milk for two weeks. Child colicky and not doing well. Undiluted milk one week, gain one-half pound. Child was still cross and the mother stopped the food.

In order not unduly to prolong this paper with individual reports, I will say that seven other infants that had not been doing well were fed whole milk and in every case the results were entirely satisfactory. All these children who have been fed on whole milk are alive except one who died when a few years old, after it left the orphanage. Their ages are from three and one-half months to eighteen years.

In only four cases out of the thirty-three put on this food, was a change made. They were on it only a short time, and in three there was no reason for not continuing, except that the mothers were afraid to try it longer. The infants fed in this manner were strong, healthy children, and cried much less than the average bottle-fed babies. It is an instinct for a mother to feed a child when it cries, and theoretically, at least a healthy child should not cry unless it is hungry. One thing I tried to impress upon them was the necessity of not feeding them oftener than every two or three hours, and if the child went longer without acting hungry all right. I am satisfied that most of them after two hours elapsed were fed all they would take and allowed to sleep as long as they wished before being fed again.

I called to see these children occasionally as I was afraid they would go wrong, and



sometimes I was startled at the amount of milk the mother was giving them at a feeding. When I would remonstrate she would probably say, "He is hungry and must have it. He is well and goes to sleep for three or four hours after being fed." I believe it is nature's way to feed only when hungry. What is it that suggests the frequency of feeding in the lower mammals? It is no doubt the craving of hunger. If the digestion is good and appetite keen they look for it often, if not good less frequently. In the human family, from the time that Eve nursed her first-born, until recent times, I have no doubt that infants were fed when they cried. If they were healthy children and cried from hunger all was well. If they were ill they were injured, but this was one of nature's ways of eliminating the unfit, and improving the race. In recent years science has appeared upon the scene with a time-piece, and while preventing the sick from being fed too often, probably insists on feeding children that are not hungry.

Dr. Elkins has been kind enough to allow me to incorporate in this report three cases fed on whole milk.

*Case 1.*—Baby, six months old. Had been fed modified milk; also several prepared foods, but none of them agreed with it; child was cross and did not gain in weight. Whole milk was tried as a last resort. It ceased vomiting, began to grow, was good-natured and since then has continued to thrive, and at present is on clear milk at the age of ten months.

*Cases 2 and 3.*—The doctor reports that the other two children gave practically the same history except that the time of beginning whole milk feeding was, in one case, at the third month, in the other at the fifth.

Dr. Mason also writes me that he has tried this method of feeding in three cases. In the first very reluctantly, as he candidly told me he was not impressed by my paper on this subject at our county meeting a year ago.

*Case 1.*—Mother nursed him two weeks. He did well. Then various foods were tried but he did not gain. At birth he weighed eight and one-half pounds and at three months only ten and one-half. He was fretful and vomited ha-

bitually. He was given two and one-half ounces of undiluted cow's milk, which was the first feeding he had entirely retained since being fed artificially. Began to thrive and in five weeks gained three pounds and has continued to do well. Is now ten months old, is sturdy and well and weighs nineteen pounds. During the last two months has taken an ounce of oatmeal gruel in seven ounces of milk as bowels were a little constipated.

The doctor has not given me particulars regarding the other two cases, but says, "In all fairness to the whole milk feeding, I want to say that I tried all other methods first, but must admit that the three cases I have had on whole milk have been very satisfactory."

In one case Dr. Mason added a little more fat, bringing the percentage up to four and one-half. I think this a good idea if there is constipation. I am satisfied, however, that there is plenty of fat in pure whole milk to properly nourish an infant. Thirty-five successful cases fed contrary to our accepted method have certainly made a great impression on me. Only four children upon whom it was tried stopped using whole milk.

I have asked myself a great many questions but I have not been able to answer them all to my own satisfaction. I feel justified, however, in concluding that the statement that infants cannot digest milk that is not modined is not true. Is it possible that we have made a goddess of chemistry and in worshiping at her shrine have forgotten other teachings? We have been trying to get a food that chemically resembles mother's milk, but chemistry is a poor criterion to go by in arriving at the digestibility of any food. Chemistry certainly led us astray in our diagnosis of diseases of the stomach. We have analyzed the gastric juice and have given various names to the altered secretion, when the real cause was chronic appendicitis duodenal ulcer, gall stones, or perhaps some obstruction at the pylorus. The stomach does not seem to occupy the position in the digestive process that was assigned to it many years ago. Surgeons remove large portions of it, and if there is a free opening between stomach and intestines the digestion may be good. If, however, there is undue retention of food in the stomach we at once have gas-

tric disturbance. If there be vigorous peristalsis and free outlet the food is quickly liquefied and passed into the bowels. Under the above conditions firm curds will not form in the stomach. An atonic and dilated stomach is conducive to retention of food and curds.

Now what have we been doing when feeding large quantities of liquid? One of the most popular text books written for the instruction of mothers gives the quantity of modified milk for a ten-pound child, eight weeks old, as thirty-two ounces in twenty-four hours. If a child weighing ten pounds be fed thirty-two ounces in twenty-four hours, how much liquid would an adult weighing one hundred and fifty pounds take in order to consume a proportionate amount of liquid according to weight? The answer is four hundred and eighty ounces, or thirty ounces every hour one is awake, allowing eight hours for sleep.

We have not been content with that much liquid, but we have been advising mothers to give them water between feedings. We must admit, however, that infants can consume more liquid in proportion to weight than adults. The muscles of the infant's stomach at birth are poorly developed, and in giving such a large quantity of liquid are we not producing dilatation and atony of that organ and consequently interfering with the proper emptying of the stomach which is essential to good digestion? Are we not taxing to their fullest capacity every cell of absorption and excretion? May not the bowels also be distended and the muscles weakened, hence colic?

My observations teach me that from one and three-quarters to two and one-quarter ounces of undiluted cow's milk per pound weight in twenty-four hours is sufficient to nourish a child. If that be so an infant on whole milk would only take about two-thirds as much liquid as one on modified milk.

A plentiful supply of nitrogen is essential for vigorous cell growth and when whole milk is given I have noticed a strong muscular development of the trunk and extremities. If the muscles of the stomach and bowels partake in this development, there should be strong, regular peristalsis without gaseous distention and cramps, and when we think of the lax convoluted sigmoid of the infant we can understand why he should have colic

unless vigorous peristalsis be present.

One cannot consider the lessons taught by the cases cited without arriving at conclusions, some positive, others provisional.

I feel certain that this diet was an excellent food for these thirty-five babies, and I think there is no doubt that some of their lives were saved by it. If undiluted milk be good for babies with weak digestion, might it not be good for those that are well? If an infant is doing well on modified milk I would leave it alone, if not I would certainly, without hesitation, try whole milk. I can now do this with the assurance that I am not suffering from an obsession, since some of my confreres in St. Lawrence county have had good results; and also since I have learned that a few European writers for some years have been advocating whole milk. What I feared at first, overfeeding unless the quantity is carefully regulated, is not apt to occur if the child is fed only when hungry. The concentrated food seems to satisfy the child before too much has been taken.

I believe in starting with a small quantity and increasing a little at each feeding until the proper amount is arrived at. For young children who have been on modified milk, I would gradually decrease the amount of water; occasionally I might add a little lime-water. If whole milk is agreeing but the child constipated I would add more sugar or use top milk.

---

## EAR, EYE, NOSE AND THROAT

*For this issue, F. E. MOTLEY, M.D.  
Charlotte*

---

### PREVENTION OF THE CHRONICALLY DISCHARGING EAR

The majority of chronic discharges from ears are caused by repeated upper respiratory infections, especially those involving the nose and throat, or are due to a neglected otitis media accompanying one of the acute exanthematous diseases. It is quite common to hear the story that these patients expect, or have been led to expect, to "outgrow" such discharges. Quite a large percentage of chronic incurable deafness could be prevented by proper early care in such cases, before irreparable damage has been done to the drum and ossicles. In addition to the important

social and economic handicap of loss of hearing, these patients are subjected to the constant hazard of otitic meningitis and brain abscess.

Probably the greatest factor in preventing chronic otitis media is the correction of any existing nose and throat pathology. The incidence of otitis media in the acute exanthematous diseases could be lessened by the proper care of the nose and throat. The routine use of argyrol or any of the suitable mild antiseptics with hot Dobell's or saline gargles should be instituted. If during the course of, or after, one of the exanthematous diseases, acute otitis media does occur, free drainage by means of wide incision of the ear drum should be done early. In the event that the aural discharge continues for three weeks or more (providing there is no mastoiditis that warrants surgical intervention) the attention should be focused on removing enlarged adenoids and hypertrophic tonsils, if these are present. Careful examination of the nose and accessory sinuses should be made to ascertain that there is no sinusitis present which might tend to keep up the ear discharge.

The use of a dehydrating solution, such as 95 per cent alcohol, which in addition has an antiseptic value, will tend to clear up a scanty mucoid discharge and shrink the inflamed thickened mucosa. Any early polypoid changes or granulations may be cauterized by carbolic, chromic or trichloroacetic acid or by silver nitrate, depending on the extent and depth of cauterization desired.

It is true that in the very severe types of scarlet fever and measles the general resistance is so lowered that, when a virulent organism attacks the middle ear, sometimes destruction of the drum and ossicles takes place in spite of prompt and thorough treatment.

These cases, however, are rare; and a great majority of the cases of discharging ear which are encountered are due to neglect. The shorter lapse of time between the onset of the disease and the institution of treatment the greater is the patient's chance for recovery.

It is within the realm of the family doctor to strongly urge and advise prompt attention to the etiologic factor of preventable deafness. The etiologic factor of preventing deafness may be reduced in prevalence and its management improved.

## ORTHOPEDIC SURGERY

O. L. MILLER, M.D., Editor  
Charlotte

### SURGICAL SUGGESTIONS

In the December, 1927, issue of *The American Journal of Surgery* the editor has scattered among the pages, as foot notes, the following excellent axioms called by him "Surgical Suggestions." They are well worth repetition and should be remembered by all of us who attempt to handle bone infections.

1. "A chronic abscess in the bone marrow, like acute suppuration therein, often does not show, as such, in the roentgenogram. The appearance is then merely that of the associated osteoperiostitis. There is in the film this suggestion for a diagnosis: there may be very little external thickening of the bone, and the otitis spreads centripetally, encroaching on and sometimes, in one or more places, obliterating the medullary cavity. This internal thickening is by dense, dry bone, and such an otitis or osteoperiostitis (when, by its appearance or otherwise, syphilis can be excluded, and when there is no evident necrosis or cortical abscess) indicates the possibility of a medullary abscess. If the medullary cavity is invaded by osseous growth in such a manner as to surround a collection of pus, such a central abscess will appear in the film as a dark area, unless the bone is so thick and so dense as to obscure the picture of the cavity within.

2. "The chronic, non-perforated bone abscess tends to become sterile or nearly so; its organisms are dead or attenuated. Therefore open osteotomy—the usual procedure for its relief—need not be, and should not be performed. It can be cured by simple evacuation of the pus through a small drill hole—a minor operation that can be done under nitrous oxide. A rubber-dam drain may be inserted down to, but not into, the bone for a few days; and probing and scraping the cavity must be avoided lest this introduce secondary infection. The pain is immediately relieved and unless a minute circular sequestrum forms about the drill passage, the tissues heal quickly and the opening into the bone soon closes."

3. "If the situation of a small bone abscess has not been estimated accurately enough for it to be tapped by the first drill



ing, other drill holes can be made with little damage to the bone, or the surgeon may defer the completion of the operation to determine roentgenographically the relative levels of the abscess and his first drill hole."

4. "Whether only a drop or two of pus in the cortex or cancellus, or several drams in the medullary canal, chronic bone abscesses have a uniform symptomatology—persistent pain (often radiating and mistreated for 'neuritis' and 'rheumatism') and distinct localized bone tenderness. The condition is usually afebrile but sometimes subfebrile (100 degrees, even 101 degrees)."

## UROLOGY

For this issue, CLAUDE B. SQUIRES, M.D.  
Charlotte, N. C.

### BACTERIOLOGIC DIAGNOSIS OF GONORRHEA

Urologists are frequently consulted in regard to obscure cases of urethral discharge. It is indeed quite difficult to make a positive diagnosis of gonorrhea. Many physicians believe that when a patient comes in with a urethral discharge and a history of exposure, the patient has a gonorrheal infection; and he is treated accordingly. In many instances brilliant reports of cures in a few days, or a few weeks' time are made; when, as a matter of fact, the patient has never had a gonorrheal infection, but a mild chemical or bacterial urethritis. It is possible to get an abortive cure if the patient is seen within a few days after exposure; however, when a distinct gonorrheal infection is present a cure under four or six weeks is very rare.

When a patient comes in with a urethral discharge it is our routine practice to obtain a urethral smear and culture, using all the ordinary precautions. In many instances the smears are reported positive and the culture negative for gonococci. This is very important because there are many gram-negative diplococci which simulate the gonococcus. Gram-negative cocci are of great interest because they include the gonococcus and because they are so frequently found in the urethra and prostate gland. It is difficult at times to distinguish gonococci from other gram-negative organisms. In morphology the gonococcus resembles the other gram-negative diplococci but differs from them in its cul-

tural characteristics. The now obsolete method of making a smear and staining it with methylene blue was formerly routinely used, and a diagnosis made from this. An opinion given from a methylene blue stain is misleading and worthless. All the different cocci present resemble each other so closely that it is impossible to distinguish one from the other. The gram stain also has been used extensively as an absolute diagnostic method and until recently, when a gram-negative diplococcus was found in a urethral smear, a positive diagnosis of gonorrhea was made. However, we know that this is not always true. In the gram stain it is very easy to confuse the diplococcus catarrhalis and the meningococcus with the gonococcus. A culture is absolutely necessary for an accurate and reliable diagnosis. Todd in his *Practical Bacteriology* mentions micrococcus melitensis and micrococcus flavus and he states further that "gram-stained smears from pus sediments of urine, especially in pyelitis or cystitis, may show coccoid forms of *b. coli*, which may be phagocytized and thus be reported as gonococci." Wichmann and Schlunk (in the *Deutsche Medizinische Wochenschrift*, Berlin, January 13, 1925), use the term: gonorrhea lent for cases of chronic gonorrhea with gram-positive diplococci. They believe that these germs might be degenerative forms of gonococci, and they are certainly only mildly pathogenic as Schlunk proved on himself. The incubation period was long, nineteen days; the inflammation subsided after eight days. The diplococcus catarrhalis is most frequently the confusing organism and in order to rule this out it is necessary to obtain a culture. Meningococcus likewise is often quite frequently confused with the gonococcus and it is necessary to obtain a culture. Meningococcus likewise is often quite frequently confused with the gonococcus and it is necessary to obtain cultures to differentiate it.

Swartz in 1920 describes a culture method for the gonococcus which has proven extremely satisfactory. Prior to this a successful culture medium for the gonococcus was very difficult to find. Swartz' media gives a luxuriant growth and is rather easily prepared.

In medico-legal cases a culture is extremely

important because of the fact that it is so difficult to make a diagnosis of gonorrhea from a urethral or prostatic smear. In making a diagnosis of gonorrhea the following points should be kept in mind:

1. A urethral discharge does not mean gonorrhea.
2. A stained smear is worthless.
3. A gram stain is at times confusing.
4. A culture of the urethral discharge gives an absolute diagnosis.

---

## RADIOLOGY

---

JOHN D. MACRAE, M.D., *Editor*  
Asheville, N. C.

### X-RAYS AND BREAST CANCER

The public knows more about the beginning of breast cancer than it ever did. The average woman knows that a lump in the breast is ominous, and seeks medical advice promptly. Doctors are also much more skillful in diagnosis and treatment of this condition. The combined researches of surgeons, pathologists and radiologists have brought this about.

The organizations and individuals seeking to spread information about cancer are continually placing the facts gained by research before the profession at large. Physicians are co-operating with them to educate the public to the end that cancer may be recognized and treated early.

In spite of these facts patients present themselves for the first time when the cancer is far advanced, when the chance to obtain a cure is gone.

It seems that surgical technic has developed to the point where the operation for breast cancer will not be improved upon.

Complete removal of the breast, the pectoral muscles and the lymphatic tissue in the axilla and in the base of the neck is the only cure for breast cancer. This procedure will be successful only if all malignant cells are removed.

The spread of cancer is so insidious that its microscopic growing edge may be beyond the reach of the surgeon's knife in what seems to be an early case; consequently the large percentage of recurrences and metastases.

Cancer extends by permeating the tissues

in all directions. The flow of lymph does not hinder this extension, for it takes place against the stream. Also malignant cells are moved with the lymph flow to the nearest glands which then become cancerous. Another avenue of spreading cancer is in the blood stream. Small masses of malignant tissue break off in the veins and are carried thus until they lodge in distant places and establish metastasis.

It is the inability to recognize the minute processes and to remove them that makes radiation treatment an important and necessary adjunct to surgery.

X-rays of suitable quantity and quality are destructive to malignant cell growth when healthy tissue cells are resistant. Thus it seems that x-rays have a selective effect on cancer. Expressed differently, cancer is vulnerable to such x-ray doses as are incapable of destroying normal tissue. This is in accord with our knowledge of the biological effect of x-rays; that juvenile tissues or cells undergoing multiplication by segmentation and fission are x-ray sensitive, while adult tissues or cells which are highly specialized and stable are not.

X-ray treatment should only be used to the exclusion of surgery when the patient refuses operation or when surgery is contraindicated. It must be emphasized also that x-rays in massive doses cause profound depression and if the doses are too heroically given the patient's natural resistance to malignant disease will be destroyed. When there is marked cachexia and anemia, neither x-rays nor surgery will be useful.

Treatment by radiation is given before operation and makes the danger of spreading cancer cells by reason of the surgical traumatism much less. Twelve or fourteen days after such an x-ray exposure the lymphatics and blood vessels in and about the neoplasm will have become more or less blocked by infiltration with leucocytes and by fibrosis. Therefore pre-operative x-ray treatments are to be given two weeks before surgery is done.

Post-operative radiation is now used in most cases as a means of preventing recurrence and metastasis. The spread of cancer is centrifugal and its microscopic growing edge may be eight to sixteen inches out from the center of the primary growth. It is the

malignant cells out in this periphery which are most dangerous, therefore x-ray exposures over the site of operation will be insufficient. All the tissues which may become involved by lymph permeation and drainage must be dosed; and this calls for exposures over the whole chest, back and front, as well as the supra-clavicular regions and the upper abdominal walls and mediastinum.

Inoperable and recurrent breast cancer are treated with x-rays to relieve pain and to stop discharge. The lives of such patients are lengthened and made bearable. In these hopeless cases the surgeon can refuse to operate and save surgery from the discredit of losing patients; but the radiologist must carry on, for he does relieve pain and prolong life even when it is plain that his patient will die a cancer death.

Even metastasis to bone and to viscera are checked in their progress with restoration of function, at least for a time.

I have given x-ray treatments to hopeless cancer cases when it seemed that to prolong a life of suffering was not justified, and observed the patient relieved from pain and going about the business of caring for her family for a year or more before becoming disabled. Such experiences have made me determined that the benefits of radiation must not be refused.

In patients who refuse operation, and when surgery is contra-indicated by reason of a bad heart or some constitutional state, x-rays are used to the exclusion of surgery. The presence of nephritis or diabetes makes it necessary to proceed cautiously with x-rays, for there is an increase of toxic material after x-ray treatments which must be eliminated. Doses must be modified to suit these conditions.

The estimation of x-ray doses must take into consideration the extensive area to be treated and the exposure of all lymphatics draining to and from the primary lesion.

The quantity and quality of x-rays given must not be greater than an erythema dose five centimeters below the skin. It must be remembered that large doses over the thorax will result in a dangerous pulmonary fibrosis; therefore it is best not to exceed ninety per cent erythema dose within lung tissue.

Another important thing to consider is the constitutional state of the patient. Do not

dose the cancer so heavily that the patient's power to fight her disease is destroyed. If a massive dose is decided on, divide it into sessions to be given during a period of ten days or two weeks.

There is greater safety from return of the disease if the dose is repeated four times in the first year and twice in the second year after operation.

---

## SURGERY

---

GEORGE H. BUNCH, M.D., *Editor*  
Columbia

### GOITER

The Carolinas and Virginia are fortunate in not being in the goiter belt. In the State of Washington it has been estimated (Mason) that 65 per cent of the boys and 75 per cent of the girls between the ages of 12 and 18 have some enlargement of the thyroid gland. In certain districts east of the Cascade mountains even the domestic animals show the blighting effect of thyroid disease. The newborn are weak, and there are hairless pigs and goats. Indians and their dogs do not have it because they get iodine from salmon which is the Indian's chief food. Goiter is endemic over the entire Great Lakes region. After graduation I was in a town in Michigan, the size of Columbia, in which two members of the medical profession had exophthalmic goiter. Thyroid disturbance is not so common in the southeastern states but it behooves medical men to be familiar with goiter and its treatment.

The goiter of adolescence is a symmetrical enlargement of the thyroid gland and causes but little systemic disturbance. The condition may last for a few years and disappear without treatment. In it iodine given as Lugol's solution causes a reduction in size of the thyroid and is curative. The periodic administration of iodine in small doses to school children prevents goiter in a large percentage of them. Iodized table salt is now a commonly advertised product. It is not known if there is any relationship of adolescent goiter to thyroid derangement in adults.

Simple goiter and adenomatous goiter demand treatment because they may even after years of quiescence result in the development of hyperthyroidism. The patient with toxic goiter is a serious problem to both internist



and surgeon, and demands their active co-operation if the best results are to be obtained.

In 1825 Parry gave the first comprehensive description of exophthalmic goiter. Clinical descriptions were given by Graves in 1835, and by von Basedow in 1840. Tachycardia, extreme nervousness, tremor, exophthalmos, voracious appetite with progressive loss of weight and weakness, with or without much enlargement of the thyroid gland, make a most striking clinical picture. The course is progressive and the treatment is essentially surgical, because the symptoms are from an excess of thyroid secretion that can only be effectively and permanently lessened by a decreased blood supply to the gland or by removal of a portion of the gland. For years medical treatment consisted of rest in bed and forced feeding. In 1922 Plummer found that giving iodine as Lugol's solution to these patients caused a marked improvement in their symptoms. His discovery has enabled the surgeon to operate safely upon patients who were otherwise inoperable. It has reduced the operative mortality in these patients more than 50 per cent. It has been the means of practically eliminating the multiple stage thyroidectomy; for, after iodine administration, the complete subtotal operation can be done. It does this by causing the gland itself to shrink thus reducing the output of toxins. It makes an easier operation on a better operative risk. But to give the best ultimate result to the patient it is necessary to know the limitations of iodine in the treatment. The maximum effect is soon obtained, after which, in spite of the continued giving of iodine, the disease again becomes progressive. Then, when the patient is brought for operation the surgeon cannot by iodine make his patient a safe operative risk, and must resort to ligation of the superior thyroid vessels under local anesthetic before attempting subtotal thyroidectomy. Lugol's solution is not curative in exophthalmic goiter, and its wonderful therapeutic effect should be reserved for the pre-operative treatment of the patient. Physicians should not give iodine before sending goiter patients to a surgeon. Lahey says, "They [the patients] should be turned over to him [the surgeon] for iodine administration, permitting him to note its effect, to observe the

patient and his degree of toxicity before the iodine is administered, and to see the borderline case unchanged by iodine feeding."

---

## THERAPEUTICS

---

FREDERICK R. TAYLOR, B.S., M.D., *Editor*  
High Point

---

### A FURTHER NOTE ON THE CASE REPORTED LAST MONTH

Wassermann negative. Patient has remained sugar-free on a steadily increasing carbohydrate diet. The whole condition may have been a reaction to the "whiskey" he drank—whether alcohol or some other ingredient produced it, it is impossible to say. The patient is now back at work and apparently well.

---

### THE TREATMENT OF CARDIAC NEUROSES

By cardiac neuroses we mean conditions in which no organic heart lesion can be found, and in which there are no symptoms indicating serious heart trouble, such, e. g., as the symptoms of angina pectoris; yet in which the patient is disturbed by feelings that cause him to believe that he has heart disease.

These conditions are very numerous in practice, and their symptomatology extremely varied. Sometimes the patient's description of his symptoms may suggest actual heart failure, when no such condition exists. Shortness of breath, choking sensations, precordial pain, fainting attacks, sudden attacks of dizziness or weakness, palpitation, the consciousness of the throbbing of the pulse in the ears, etc., all may cause a patient with a rather harmless functional circulatory disturbance great anxiety, and this anxiety very often becomes by far the most serious phase of the whole trouble.

What shall we do for these patients? In the first place, we must do what we should do for all patients—try to find the cause of the trouble. A careful history is the foundation of our work. Of special importance is a most minute inquiry into the details of the attacks from which the patient suffers. Do they always come on after exercise or some other form of stress or strain, or are they independent of these factors? Are they always associated with gaseous distention of the abdomen? Are they relieved by belching? (Beware of overlooking a true angina

associated with gas!) Do psychic causes—worry, fear, etc., play a part? Do the attacks come on gradually, suddenly, or instantly, and do they stop in a like manner? Will exercise relieve an attack? Will some peculiar trick—some unusual posture, pressure on the neck, drinking cold water, etc., stop an attack? Is the patient near the menopause, or are there any other symptoms to suggest an insufficiency of gonadal internal secretion? These and many other questions will be suggested in the course of a history.

Next comes a careful physical examination. First, consider the patient as a whole. Does he look sick? Does he seem frightened? Is he dyspneic? Is he cyanotic? Is there evidence of edema anywhere? Has he any exophthalmos? Is the thyroid enlarged? Is there any tremor? Is the pulse rapid? What is its character? If any arrhythmia be present, is it connected with the phases of respiration, is it extrasystolic, or does it suggest a more serious disturbance of the circulation? What is the blood pressure? Now examine the heart thoroughly, by inspection, palpation, percussion, and auscultation. Is the apex beat possible to locate? If so, is it displaced? If it cannot be found, why not? Is it unusually forcible, diffuse, etc.? Are there any thrills, and if so, what is their time? Is the area of cardiac dullness increased, diminished, displaced, or altered in shape? If a murmur is present, what is its character and time, and is it probably organic or functional? (Diastolic murmurs are nearly always organic, systolic murmurs are frequently functional.) Is the liver or spleen enlarged or tender? Is there fluid in the chest or abdomen? Is there evidence of chronic passive congestion of the lungs? (rales at the bases posteriorly, slight dullness there, etc., in addition to dyspnea). What does the urine show? If there is no evidence of serious trouble thus far, test the effect of exercise on the heart. A good test is to raise the hands high above the head, and bend down, touching the toes with the fingers, and straightening back up again ten times. Then examine the heart at once, get the rate, as well as all other data possible. Does the rate return to normal within two minutes after exercise ceases? Is there ever any pulse deficit, i. e., is the heart rate, taken with the stethoscope,

faster than the radial pulse felt simultaneously, and if so, what is the interpretation of it? (A pulse deficit due to extrasystoles is usually unimportant, but if other causes are operating, it may indicate real trouble). If the pulse fails to return to normal in two minutes or less after mild exercise, there is usually deficient cardiac reserve power. The careful student of the circulation will think of many other items of importance to note—it is impossible to make this brief editorial a complete synopsis of circulatory disturbances—we can only hit the high places.

If a careful examination shows no actual heart trouble, this fact should be stated to the patient as emphatically as possible. If heart trouble exists, he should also be told of it, *in the right way*. To say "You have heart disease," and stop there, is brutal, and, moreover, it does not convey the truth at all to the average patient. Nine times out of ten it will give him the idea that he has a dynamite bomb inside of him liable to blow up at any moment, whereas ninety-nine times out of a hundred such is not the case at all. Explain that there is enough trouble with his heart for it to be necessary for him to adjust his life to his heart capacity, and that as long as he can do that he is doing all right, and has no cause for worry. If a physician is known to tell his patients the truth, and if he gives a thorough painstaking examination and then states emphatically that there is no evidence of heart disease, his statement will have great weight, and be of the utmost therapeutic importance by banishing the monster, Fear. Of course it must be remembered that such conditions as angina pectoris, some cases of heart block, etc., may show no physical signs whatever between attacks, but if we can satisfactorily exclude these things, we can do a world of good by reassuring the patient.

Often the symptoms are due to digestive disturbances causing gaseous distention of the abdomen with pressure on the heart. Of course if such trouble is due to organic disease such as gall bladder disease, appendicitis, etc., the treatment is the usual treatment of these conditions, usually surgical. If medical treatment of the alimentary tract is indicated, that will often clear up the circulatory symptoms. Regulation of the diet, keeping the bowels in good condition, and the giving

of some preparation such as caroid and charcoal to lessen gas accumulation, often help such cases. If no digestive disturbance seems to be a factor, bromids often solve the problem. We prefer the effervescent preparations, and use tablets rather than granular effervescent salts because the former give greater accuracy of dosage. Fifteen grains entirely dissolved in a full glass of water after each meal is a satisfactory way of giving bromids to the majority of such patients. The effervescing gas does not seem to cause trouble, and the digestion is not disturbed as it is by syrups, elixirs, etc.

If this treatment proves unavailing, and acute attacks recur, we should make every effort to see the patient in an attack. Certain types of attacks are highly characteristic, e. g., paroxysmal tachycardia, with its practically instantaneous onset and equally dramatic cessation. The history will develop the type of onset, and occasionally the physician may have the privilege of witnessing the end of the attack, with a startling change from an excessively rapid heart to one that beats at a perfectly normal rate, the change occurring almost in the twinkling of an eye.

There is one particular type of functional circulatory attack, not as rare as some think, that may be quite terrifying to the patient, and even arouse the doctor's anxiety, if he is not familiar with the condition. The patient may be a man or a woman—more often the latter. Her family sends a very urgent call, believing she is dying. She presents *extreme* dyspnea. She can talk little or not at all. If she can get in a few words, she may say that she is frightfully nauseated, but cannot vomit. She wants to lie down, but cannot breathe if she does. There is no edema, and no cyanosis. The upper abdomen, (stomach) is greatly distended with gas. *The pulse is slow and regular—50 to 65*, in all probability—a cardinal diagnostic point. It is not as a rule slow enough to be due to complete heart block—40 or below. Partial block would usually cause an irregular pulse. Sometimes the patient belches noisily, but more often she tries to but cannot. The facies, if it is her first attack, may show extreme terror. There may be tetanoid spasms of the extremities. The patient may be of a hysterical type, but we have seen it in persons of the most phlegmatic disposi-

tion. There may be abdominal pain. There is often pallor, probably due to fright. What is this dramatic episode? It is due to irritability of the vagus nerve, which not only causes slowing of the heart, but also severe gastric symptoms, probably due to a simultaneous cardiospasm and pylorospasm, with perhaps some effect on intestinal motility, too. *It is of the utmost importance to recognize this condition, the so-called vagal attack of Gowers. As we have a prompt specific relief for it, viz., a hypodermic of atropin, 1/100 grain usually being sufficient.* Morphine is not required—the effect of atropin is dramatic. Within a few minutes the average patient will belch prodigiously (the cardiospasm has relaxed), borborygmi are heard (the pylorospasm and intestinal spasm have relaxed), the dyspnea stops, and the patient feels immensely relieved. Now is the time to explain to the patient, so far as possible, just what has occurred. This will greatly lessen her alarm if she has future attacks. It is well to have her keep some atropin on hand to take by mouth at the onset of another attack if she has one. This may give all the relief needed.

In wartime, a special form of functional circulatory disability seems to appear with special frequency. During the civil war, Weir Mitchell gave a classic description of it, calling it the "irritable heart of soldiers." In the world war it was known under various names—disordered action of the heart (British), neurocirculatory asthenia (American), etc. It is characterized by signs of circulatory fatigue on slight exertion, without ascertainable cause. It exists in civil life, too, but in smaller numbers of cases, and even civilian cases seem to be very much less frequent in peace time than in war time. It may be a form of anxiety neurosis. The regulation of the lives of such persons is very important—they must not be taxed beyond their strength, but, on the other hand, they must not be coddled until they become confirmed neuropaths.

If the heart is irregular, it is essential to determine the type of irregularity if possible. The electrocardiograph has taught us much about arrhythmias, but not only is that instrument not available to most doctors, but, fortunately, despite its wonderful revelations along some lines, for most conditions it is



unessential, as most arrhythmias can be diagnosed without it. A few cannot. Next month we shall discuss how to determine the nature of the various arrhythmias, and the treatment of them, by use of the ordinary means available to every physician.

To sum up, patients with cardiac neuroses should be carefully studied, the cause found where possible, and appropriate treatment given, including a detailed explanation to the patient of the nature of his symptoms. This will probably do as much good as all other forms of treatment combined, for the most distressing symptom in most cardiac neuroses is the unfounded fear of what may happen, rather than the actual physical disturbances that are taking place. Naturally, the amount of explanation possible will depend on three things—the physician's knowledge of the principles underlying the case, his ability to explain them in comprehensible terms, and the patient's intelligence, but we have no more important function than that of allaying fear, for fear and pain are the twin handmaidens of disease, and against all three, we must wage incessant war.

---

## INTERNAL MEDICINE

---

PAUL H. RINGER, A.B., M.D., *Editor*  
Asheville

---

### OBESITY AND CARBOHYDRATES

Obesity is a condition causing considerable physical discomfort, offending the possessor's vanity, and making for a considerable reduction in expectancy of life. Many methods have been resorted to in an attempt to cause this disagreeable symptom to lessen or disappear. In the *American Journal of the Medical Sciences* for January, 1928, Gordon and von Stanley have experimented on 44 patients with a combination of dextrose candy and a low-caloric intake. Their observations are practical and instructive.

They begin on the well-known fact that "a condition of hypoglycemia in certain individuals may exist independently of insulin administration. As suggested by Harris these individuals may be in a state of hyperinsulinism, induced perhaps by habitual carbohydrate feeding." Hypoglycemia has been noted by many observers as occurring during prolonged exercise. Fatigue, hunger and weak-

ness during exercise have been relieved by the ingestion of carbohydrate. These symptoms of fatigue, hunger and weakness are also complained of by a large group of obese individuals on low-calorie diets and are particularly aggravated by exercise.

On this theory, Gordon and von Stanley determined to give to obese individuals a low-caloric diet, 1200 to 1400 calories, administering the protein and fat portions of the diet at meals, and giving the carbohydrate portion between meals and during exercise (walking) believing that thus it would supply energy and therefore because of its immediate utilization only a minimum portion thereof would be stored up as fat.

The details of the "Dextrose moderately restricted dietetic regime" is best quoted verbatim:

"On the first three days, a so-called diet-symptom chart was filled out as follows: The patient tabulated in detail the amount and type of food consumed without restriction during the day. In addition the amount of exercise and the symptoms experienced during a period of 72 hours were recorded. On the fourth day, the patient was placed on a 1200 or a 1400 calorie diet which was essentially a 3 to 5 per cent vegetable regime, with one to two pieces of bread twice daily, approximately 100 gm. of meat, clear soup, one small potato, butter, milk and fruit if desired. The activities and symptoms were recorded as usual. On the fifth day, the restricted diet was continued except that, in addition, approximately 50 gm. of dextrose candy was administered at hours when symptoms of weakness and hunger were previously noted. On the sixth day the amount of starch was further reduced but on the succeeding days sufficient dextrose up to 100 gm. was administered to relieve all symptoms. The patients were especially advised to dissolve the candies slowly in the mouth, preferably during exercise, and to take not more than one piece every thirty minutes. They were also urged to walk four blocks twice daily at the beginning of the diet and to increase this gradually until at the end of two weeks twenty blocks were covered each day. At the end of three weeks, the regime was discontinued for ten to fourteen days and a moderately restricted diet (1400 to 1800 calories) without dextrose was prescribed. The

regime was then continued as previously, if a further loss of weight was desired. As the danger of a rapid decrease was appreciated a weekly loss of over 1.5 kg. was discouraged except in extremely obese individuals. No patient was permitted to lose more than 12 kg. in three months. Throughout the diet, apart from weekly examination of the urine, a search was made for untoward signs and symptoms. If untoward effects were noted or if the regime appeared unsuitable for the patient the diet was withdrawn at once."

The candy was manufactured by the Fairiston Candy Company, of 1623 Chestnut street, Philadelphia, according to a formula devised at the Chest Department of the Jefferson Hospital, which is as follows: 1000 gm. of dextrose (Corn Products Refining Company), 250 c.c. of honey, 60 gm. butter and 500 c.c. of water are cooked rapidly. When a temperature of 278 degrees F. is reached the cooking is stopped. During the entire cooking the sugar is stirred vigorously. The mixture is then poured on a marble slab, flavored (peppermint, lime, raspberry, orange, vanilla and chocolate obtained from cocoa shells) and then made into taffy in the usual manner. The candy is rolled and cut into pieces weighing 4 gm. and wrapped in wax paper. Dextrose lozenges (manufactured by Llewellyn's drug store, Philadelphia) weighing 2 gm., flavored with peppermint and wintergreen, have been used with equally satisfactory results.

"The plan of diet is essentially one of two parts: the first part is one of moderate starvation (approximately 1200 to 1400 calories). In this all protein and most of the fats are supplied at meal time. The second part consists of carbohydrate (dextrose) administration (100 to 400 calories). This provides a total caloric intake of 1300 to 1800 calories daily. The carbohydrate is supplied during effort or at other times specifically to overcome symptoms of fatigue, hunger, nervousness and weakness. In proposing the diet a possible transient hypoglycemia was suggested to explain the abnormal intake of carbohydrate in obesity. This was studied largely by noting the appearance and disappearance of symptoms in relation to various foods. Dextrose was found to relieve these symptoms quite consistently so that individuals could tolerate, with comfort, a moder-

ately low-caloric diet. That the intake of large quantities of dextrose (150—200 gm.) apparently does not cause an increase of weight if administered according to this plan is suggested in the study of individuals in whom the customary total dietary intake was 1800 to 3000 calories. It appears that when carbohydrate is supplied during exercise it is used, to a considerable extent, as fuel. If this be true the weight loss may be explained on the basis of insufficient food for maintenance during periods of rest, the dextrose supplied during exercise being sufficient to prevent the occurrence of symptoms. Although a specific dynamic action of dextrose (or protein) as supplied at different periods during the day may be considered, it seems more likely that loss of weight occurs essentially as a result of moderate starvation."

In the vast majority of the cases in which this diet was tried, a fairly constant loss of weight occurred without untoward effect or discomfort to the patients. In 21 instances the average loss of weight was 1.5 kg. weekly. Sixteen patients have been on dietetic management for three months. The greatest loss was 12 kg., the average being 7 kg. One patient has had no gain in weight for two months after having lost 6.5 kg., although she has returned to a comparatively unrestricted diet.

This article of Gordon and von Stanley provides food for thought as well as food for the obese. The original idea in it appears to the editor to be the administration of carbohydrate at a time when its rapid conversion into energy prevents its conversion into fat. The diet is easy of administration, requires less force of character than do most other programs for flesh reduction, and appears to be definitely efficient. Though the series of cases reported is comparatively small, yet it has been carefully supervised and the results are such as to merit attention and further investigation at the hands of many internists.

#### GRATEFUL TO GET IT BACK

The doctor having recovered his fur-lined garment was reluctant to proceed against the culprit. "But, sir," said the policeman, "it was a case of larceny, wasn't it?"

"Not exactly," returned the doctor, "rather a case of misunderstanding, I think. You see, I told my patient he must take something warm immediately, and on his way out he took my overcoat."—*Exchange*.

## OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville,

### SUGGESTED TREATMENT FOR PATHOLOGICAL CONDITIONS DISCUSSED IN THE JANUARY ISSUE

In the January issue we discussed the symptoms of certain pathological conditions during pregnancy. This grouping was used for the purpose of keeping certain types of cases before us and trying to analyze them, then outline a practical treatment for each type of case. We know the symptoms fairly well, but we do not know just what difficulty is being encountered in the effort of the organs to perform their normal metabolic processes. The liver, the pancreas, the ovaries, the pituitary, thyroid, and adrenal glands are all apparently involved. It is hoped that by continuous effort on our part we may be able to know just what the deficiency is. It behooves us to study more carefully the clinical symptoms, watch the elimination processes, study changes in body weight, blood pressure, etc.; and follow such of these patients who finally die, to the autopsy room and there study macroscopically and microscopically the changes that have taken place in the various organs.

In the first group of cases discussed in our last issue, there was nausea and vomiting, loss of appetite and discomfort. We wish to make the following suggestions as to treatment: We are assuming that the patient has been thoroughly studied and checked over as to weight, blood pressure, urinalysis, etc., so the first thing is to limit the physical activities, which means rest. The next thing is to put the patient on a simple diet, forbidding meats, eggs and highly seasoned foods. It may be necessary in this group of cases to have the patient eat something every two hours. We find that the vegetable foods form the proper diet; also we find that if in the early morning the patient is very much nauseated, if she will chew dry crackers before getting out of bed this seems to help. Patient should have a good evacuation of the bowels each day and good elimination by way of the kidneys. Now, this simple plan in the management of these cases works very admirably. In this group of cases we find oc-

asionally that when this rest and diet do not eliminate the nausea and vomiting that by vaginal examination, lifting the uterus up out of the pelvis, helps a good deal; also painting the cervix with iodine is helpful.

In the second group of cases we have much more marked pathological condition than in the first group; hence, the treatment must be the same with additional rest and quiet for the patient. These patients have to be in bed practically all of the time until we have obtained results. The treatment which appears to be very practical at the present time besides the diet is the daily administration of glucose in the vein. If the family physician is so situated that he cannot have this made up by the hospital, he can buy the glucose which is put up in 20 c.c. ampules. This can be given with a 20 c.c. Luer syringe. It may be necessary to give this over a period of ten days. Along with the glucose, after the first two treatments, if the patient does not respond as expected, then corpus luteum may be given under the skin, and small doses of insulin given about fifteen or twenty minutes before each meal. This outline of treatment is very successful in a large percentage of the cases. If patients in this group do not respond to treatment and the condition borders toward pernicious vomiting with marked loss of appetite and weight, then it is very wise for the family physician to call in a consultant, because if patients in this group are allowed to go on they may go from bad to worse and the end may be tragic. We may emphasize again that these cases cannot be studied too carefully. The more time the physician puts on such cases in study and treatment the more he will gain real satisfaction and his patient will appreciate most completely his efforts. Too, it assures you that the patient will come nearer co-operating throughout, and the immediate family will better understand, for there is no sickness quite as bad as this type of sickness; also it has dangers we cannot altogether conceive.

Practical treatment for cardiac conditions which were outlined in our last paper should receive more of our attention than apparently we have given to them. There is nothing so unfortunate as for a person to have one form or another of cardiac disease. Since



we have this condition and many of these women marry, it is a challenge to us to meet the condition in a sane and sensible way, so our procedure should be somewhat as follows: When such cases fall into our hands we should study most carefully the type of heart condition we have, doing our best to estimate the strength of the heart muscles and the ability of the heart valves to perform in a way reasonable service. After we have done this we should go over with the patient and her husband in a very simple and clear-cut way the exact condition she has. After this is done, the patient should be told exactly the types of work she can do, the kind of diet which she is expected to live on, the kind of exercise she is to take, the amount of rest she is to have; then the patient's pelvis should be gone over most carefully and if there are any abnormalities she should be told of this. The tendency has been in the past to interrupt pregnancies in these cases. These people are just as anxious for babies as anyone else and from my limited experience I believe they can go through the pregnancy, labor, puerperium and lactation much better than to have therapeutic abortion, because after the baby comes I find that these mothers go along, look after their babies and are much happier than they were before.

Besides the limited exercise and the kind pit, if it is possible to do so; (2) she should by all means have the following care during labor: (1) she should be taken to the hospital, if it is possible to do so; (2) she should not be allowed to go through the ordinary strain and stress of labor, but the minute she discovers that labor has begun she should be prepared for delivery under strictly surgical conditions. A Vorhees bag can be inserted into the cervix and inflated with water. Thirty minutes before this is done, one-fourth grain morphine sulphate may be given hypodermically. This will eliminate pain. After the bag has been inserted, the patient may be put back to bed and with cord attached to the bag a water bottle two-thirds full of water may be tied to it and hung over the foot of the bed. This will give enough pressure to cause irritation of the cervix, produce regular and rhythmic uterine contractions and gradually dilate the cervix. During this period it may be necessary to give another hypodermic of morphine; also small quantities

of ether according to Gwathmey technique may be given by rectum. This, with the morphine, will eliminate practically all pain. When the cervix is dilated we can allow the bag to be expelled and as it is expelled the head follows the bag. As soon as the head is down on the pelvic floor, it is possible at this time to apply low forceps without any danger to mother or baby, and thus shorten the second stage of labor considerably. This procedure will eliminate a good deal of work on the part of the mother.

Another way of handling the second stage of labor is as follows: The minute the bag is expelled from the cervical canal, the patient may be taken back to the delivery room, and if the administration of morphine and ether by rectum has not produced complete relaxation, then this can be done by giving a few whiffs of ether. When relaxation is obtained, under strictly surgical conditions the attending physician, if he is certain that there is no obstruction in the birth canal and the birth canal is roomy and the baby is not too large for the canal, may do a version and extraction. This will shorten the second stage of labor and be less dangerous both to baby and mother than to allow her to go along the regular path of delivering herself. These cases, in my own work, have been managed as above described and they have done well during the period of pregnancy, during the lying-in period and during the period of lactation.

The suggested principles in the management of the two groups of nausea and vomiting, etc., and the cardiac conditions are offered with a hope that the readers will use them, criticise them and offer any suggestions that will be helpful to all of us in serving this large group of women who are suffering with pathological conditions, which conditions should be remedied.

---

#### MA HAD TOLD WILLIE

"What is done with the flesh of a whale?" asked the teacher

"We eat it," sang the class in unison.

"And what do we do with the bones?" persisted the teacher.

There was silence while the class racked its collective brain for an answer.

Wilfred, who was famous for his impeccable table manners, raised his hand and said: "P—P—Please, we put them on the side of the plate."

## NEUROLOGY

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston

### I. THE CEREBELLUM. II. SENSORY DISORDERS

The October, 1927, issue of the splendid English journal of Neurology, *Brain*, contains much interesting and authoritative material. Practically all of the articles are those read at a combined meeting of the Section on Neurology of the Royal Society of Medicine and the American Neurological Association, held in London, July, 1927. The most interesting papers were those forming two symposia, on the cerebellum and sensory disorders, respectively.

#### I

The articles concerned with the functions of the cerebellum, and the splendid summary discussions of such masters as Holmes, Walshe, and Kinnier Wilson, place before us the latest and most authoritative information obtainable on that rather obscure organ, the little brain. To quote Walshe, "To the conception of cerebellar functions formulated above, namely, that the cerebellum is an organ through which the cerebral motor cortex achieves the synthesis of co-ordinated units which go to make up voluntary movements, may be added this further element of definition that the cerebellum is the organ through which the cerebral motor cortex correlates the postural components with the phasic components of co-ordinated voluntary movement. If we employ Tilney's terminology, we might say that the cerebellum is the organ by which the cerebral cortex achieves integrative synergy in voluntary movement; and conversely, that cerebellar ataxia is the expression of a defect of integrative synergy in voluntary movement. In both definitions the voluntary element must be explicitly stated if they are to express the facts of observation accurately. Walshe proceeds to point out, however, that there are still many difficulties to be solved before we will thoroughly understand the functions of the cerebellum, since the clinical picture presented in any given case depends upon the summation of so many factors, each of which may be hidden. What we see is really the algebraic sum of all factors concerned.

#### II

The other group of papers to which I wish to call attention form the symposium upon sensory defects, the result of organic disease. These are by English writers and are discussed by the Americans, whereas, in the symposium on the cerebellum, the papers were written by Americans and discussed by the Englishmen. From the clinical point of view one of the most interesting contributions is a paper by Wilfred Harris, of London, with the title, "Sensory Changes in Spinal cord and Medullary Lesions." I shall attempt to summarize and digest some of the points which have a practical bearing upon the diagnosis of several commonly encountered cord conditions.

In *tabes dorsalis*, frequently one of the earliest signs is an analgesia, or loss of sensation, which may be widespread long before equilibrium is disturbed or ataxia encountered. A case is quoted in which a man notices, as the first sign of a disordered nervous system, that when taking his morning bath he could scrub himself all over his chest with his nail brush without any discomfort. In another case a woman in labor had no pains of any kind. Examination showed Argyll-Robertson pupils, and she later developed motor symptoms of *tabes*. Genital anesthesia with impotence is often an early sign. On the other hand, the early sensory changes may be in the form of a hyperesthesia. Subjective sensations of cold, especially about the legs, are common in *tabes*, and such patients are extremely sensitive to draughts and are inclined to wrap their legs up in a rug, even in warm weather. Paresthesiae of tingling, numbness formication in the legs are common, as is also the sensation as if the feet were standing on cotton, wool, or rubber.

Disseminated or multiple sclerosis differs from *tabes dorsalis* in that the latter produces disease of the posterior root fibers before their entry into the cord, while the former affects the spinal and cerebral tracts. Consequently the early symptoms vary enormously and the initial signs may be of either cerebral or spinal origin. There may be hemianesthesia and loss of sense of position in limbs, or a unilateral numbness without any objective loss of sensation to touch, pain, or temperature, or to vibration. Fugitive shift-

ing paresthesiae are very characteristic and of high diagnostic value.

Syringomyelia is not infrequently ushered in by pains in the back and limbs. These pains may precede the other symptoms by several years. Persistent pains in one area of the trunk or limbs is so commonly an early sign of syringomyelia, before any muscular wasting or even before analgesia or therm-anesthesia can be detected, that the possibility of such aching, boring, burning neuralgias being due to this form of chronic spinal disease is perhaps not sufficiently emphasized.

"A lady, aged 62, had suffered for the past seventeen years from spasmodic attacks of pains at the back of the neck and head and under both scapulae. Gall stones had been diagnosed and the gall bladder and appendix removed, without any improvement. Following immediately upon a trifling operation under an anesthetic, she lost all remaining power in the left lower limb and noticed intense numbness of the left side of the trunk, and blisters were produced by a hot bottle on the right leg and thigh. On examination there was now found total anesthesia of the skin to touch, pin-prick and pressure, on the left side from the third dorsal level to the ninth, though deep pressure on this side produced pain. In the right lower extremity there was complete analgesia to pin-prick and loss to heat and cold up to the seventh dorsal level, but cold metal applied to the left side below the eighth dorsal level produced intense discomfort, being felt as excessive cold. The right plantar reflex was extensor in type, though there was no trace of weakness of the right leg. The left plantar could not be tested, owing to amputation of the leg just below the knee having been done at the age of 15, owing to trophic disturbances and ulcers. In addition, the acute fissure or hemorrhage on the left side of the cord

had either destroyed or temporarily abolished all function in the posterior root zone between the levels of the third and ninth dorsal segments, giving rise to total anesthesia to touch, prick and temperature and to pressure touch. Deep pressure upon the abdomen on the left side of the middle-line caused pain, though equal pressure on the right side caused no pain at all, indicating that the lesion on the left side of the cord in the upper dorsal region had interrupted the conducting tracts for deep as well as for cutaneous sensations from the right leg and side."

On the other hand, sufferers from early syringomyelia may be unable to feel any pain. The absence of pain of all sorts has been responsible for individuals who were really subjects of latent syringomyelia being hailed as heroes.

---

"FUNERAL EXPENSES are relatively higher among low-income groups than among the well-to-do," says a report of the Advisory Committee on Burial Survey. "The costs in the United States have risen until now they absorb a major part of the small estates." Doctors generally cheerfully render unrequited services for months and years, and are content that insurance shall go to needy widows and orphans; but it is gall and wormwood to them to see hundreds of dollars paid unnecessarily to undertakers for a few hours of their time, when the doctors have not been paid anything, and will be called again on the same terms as soon as widow or child falls ill. It is said that a poor man gives larger tips than a rich one, because the poor man doesn't want the waiter to know he is poor, and the rich man doesn't want to let it out that he is rich. Convince your patients that poor folks pay more for their funerals than rich ones and the cost of dying will be greatly reduced.





## NEWS NOTES

### HEALTH MATTERS

Recently the Commissioners of Gaston county have been considering the matter of employing a whole-time health officer, to be under the supervision of the State Board of Health. The proposed salary is \$5,000, of which sum the state would pay one-half.

At its monthly meeting February 2, the County Medical Society adopted the following resolution:

"Resolved, That the Medical Society of Gaston County, in regular session, recommend to the county board of health that we agree and desire to have a whole-time county physician, governed by the proper county authorities, to be paid for out of the common funds of Gaston county."

The whole subject was thoroughly discussed and caused a lengthy meeting of the society. The claim advanced by some of the physicians, talking on the outside, is that a whole-time health "officer" and a whole-time "county physician" are two entirely different things.

The "officer," as is the case in the 37 counties of the state which have one, is under the direction of the State Board of Health and his job, they say, is a "white-collar" job.

He does not do the work, it is claimed, of a physician, such as giving attention to the prisons, convict camps, county home and charity patients, but stays in his office to direct the work of county nurses and other health workers. A county "physician," they say, does actual work in ministering to the health needs of the various county institutions and those who are on charity.

It was pointed out, as an argument against a whole-time "health officer," that Mecklenburg county, which has had a whole-time health "officer" for some time, has a higher disease and death rate than Gaston and that it has, in addition to the officer, a county physician and 17 nurses, with the health department now asking for two additional nurses.

The question is a live one and just what

the outcome is going to be can not at this time be predicted. There is no question that the physicians of Gaston county, individually and as an organization, do not look with favor on the activities of the State Board of Health.—*Charlotte Observer.*

THE CUMBERLAND COUNTY MEDICAL SOCIETY held a meeting at Fayetteville, January 19th, which was attended by the public.

Addresses were made by Dr. John T. Burrus, president, and Dr. L. B. McBrayer, secretary-treasurer of the State Medical Society, Dr. T. M. Jordan, from the State Epileptic Hospital, Mrs. Kate Johnson, State Commissioner of Public Welfare, Dr. Chas. O'H. Laughinghouse, State Health Officer, and others.

A handsome gold watch and chain was presented to Dr. O. L. MacFadyen in appreciation of his splendid services in the office of secretary.

At a meeting of the NORTH CAROLINA BOARD OF HEALTH, January 23rd, Dr. A. J. Crowell was elected president to fill the vacancy made by the death of Dr. J. Howell Way.

At the meeting of the MOORE COUNTY MEDICAL SOCIETY in Carthage, January 6th, Dr. A. A. McDonald, of Jackson Springs, and Dr. R. G. Rosser, of Vass, were re-elected president and secretary, respectively, for the ensuing year.

DR. O. L. O'BRIAN has moved his residence from Cameron, N. C., and located in Sanford, N. C.

DR. JAMES M. HARPER, of Jamestown, N. C., has located in Cameron, N. C.

DR. JOHN SYMINGTON, a returned medical missionary from India, has been elected whole time health officer for Moore county, for five months.

DR. ISAAC J. ARCHER, of Black Mountain, has been elected president of the Black Mountain Chamber of Commerce.

DR. CHASE P. AMBLER, of Asheville, was re-elected high priest and prophet for the fourteenth successive year at the annual meeting of the Oasis Temple of the Mystic Shrine.

DR. GEORGE H. WEST, prominent physician of Newton, N. C., and one of the oldest doctors in Catawba county both in terms of age and length of service, died in a Statesville hospital January 31. Dr. West was in his usual good health until a few days ago when suddenly Thursday morning he suffered a severe heart attack.

DR. AND MRS. S. H. CANNADY, of Oxford, presented the Oxford Baptist church with a

handsome pipe organ for the new edifice which is nearing completion. Dr. Cannady is a deacon in the church and is a brother-in-law of Judge W. A. Devin, who is also one of the deacons.

DR. T. F. STEVENSON, age 58, prominent Hickory physician, died suddenly January 31st. He was a native of Iredell county. He began the practice of medicine in Taylorsville, going from there to Huntersville, where he spent several years. About 25 years ago he came to Hickory, where he had been a leading physician since.

DR. JAMES D. ESTES, until his retirement one of the most widely known doctors of Southside Virginia, died at his home at Cascade on January 30th, aged 92. He was one of the first to employ ether as an anesthetic.

## REVIEW OF RECENT BOOKS

THE LIFE OF PASTEUR, by Rene Vallery-Radot, translated from the French by Mrs. R. L. Devonshire. \$3.00. With an introduction by Sir William Osler, Bart., M.D., F.R.S., Regius Professor of Medicine, Oxford University. Garden City, New York, Doubleday, Page & Company, 1927.

It was said of William, the Silent, "While he lived he was the guiding star of a Nation, and when he died little children cried in the street." Till now that had seemed the grandest tribute ever paid to man. In the introduction to this biography Osler says of Pasteur, "To no one man has it ever been given to accomplish work of such great importance for the well-being of humanity."

The book proper begins with tracing the origin of the Pasteur family, revealing the background which explains so much of Louis Pasteur's life. Letters between his parents and himself, and to his sisters abound in evidences of his greatness.

Here is given the plainest evidence that he was not only a great scientist, but a great scholar, and a great philosopher as well. His was a religion "free from all controversy and intolerance, a religion of peace, love and de-

votion."

His patriotism made him lay all his savings on an *Autel de la Patrie* and enlist as a *garde national* in the army of his country in 1848. But when the Assembly refused to vote necessary credit for establishing the great laboratory which Napoleon the Third had favored, although voting many millions for the opera house, "he prepared for the official paper an article destined to shake the culpable indifference of public authorities." After Sedan he wrote, "We are paying the penalty of fifty years' forgetfulness of science."

His biographer has wonderfully entertainingly recorded his achievements, and the thoughts which enable us to understand how he achieved; he has shown forth his native ability, his integrity, his gentleness, his energy, his practicality, his farsighted patriotism, his wisdom. And the translator's work is worthy of the text translated.

PERCIVAL'S MEDICAL ETHICS, Edited by Chauncey D. Leake, Associate Professor of Pharmacology, University of Wisconsin, and Lecturer in Pharmacology, University of California. \$3.00, Bal-

imore, The Williams & Wilkins Company, 1927

This is not a book of the garden variety. Some idea of its individuality may be gained from this: "When I asked Dr. Morris Fishbein, editor of *The Journal of the American Medical Association*, what he thought of such a project [the study of the historical development of medical ethics] he replied that it was unnecessary and of no significance for an understanding of the matter. Perhaps this is true for the medical profession. But the enlightened public is interested in certain aspects of 'medical ethics,' and I believe the present rather unsatisfactory situation might be better comprehended if knowledge of its origins were available."

It is pointed out that "medical ethics" is much confused with what would be better called "medical etiquette;" that professional courtesy is put on the same plane as professional morality.

The author is not a physician, but he has the keenness to observe, after mentioning the dangers to a young man of advertising: "Older or influential practitioners, however, may readily circumvent the injunctions against advertising and fee-splitting, or the admonitions regarding consultations, without danger to reputation or practice."

The regulation of physicians by themselves and by the legal authorities is traced from the Babylonian code of 2200 B. C., to the present. The "operating clause" in the Hippocratic oath is stated to have been interpolated after centuries. The doctors of Greece governed their conduct on broad principles of decency and honor, rather than by narrow restrictive pronouncements, expressed in conflicting rules.

In Appendices are given: the Pagan Oath of Hippocrates, The Oath Insofar as a Christian May Swear It, the Code of Ethics of the A. M. A., 1847, the Principles of Medical Ethics of the A. M. A. a. 1903, b. of 1912 and c. revised to date.

There is much of historic value which is not readily accessible; the illustrations are of marked interest; the comment is wise and well seasoned.

THE PRACTICAL MEDICINE SERIES, Comprising eight volumes on the year's Progress in Medicine and Surgery. Under the General Editorial

Charges of Charles L. Mix, A.M., M.D.

#### GENERAL MEDICINE

Edited by George H. Weaver, M.D., Lawrason Brown, M.D., Robert B. Preble, A.M., M.D., Ralph C. Brown, B.S., M.D. Series 1927. This volume \$3.00; the series of eight volumes \$15.00. Chicago, The Year Book Publishers, 304 South Dearborn Street.

Results of preliminary work with toxin treated with sodium ricinoleate (Larson) indicate that 85 per cent immunity to scarlet fever may be thus obtained. Serologic treatment of the disease has not given results either constant or definite. Given very early markedly favorable effects are obtained.

One investigator reports brilliant success in preventing measles by injecting immune serum from goats which have been immunized with the so-called "green-producing measles diplococci." The experience at Berea College, Ky., indicates that human immune serum will have a powerful and prompt curative influence.

Enccephalitis lethargica is still an unsolved problem, both as to cause and to cure. Results of serum treatment of meningitis are encouraging. There is little new about poliomyelitis. Convalescent serum in whooping cough gives promising results.

The pages on smallpox should be given careful attention. In 1924 it killed 163 persons in Detroit, 63 in Minneapolis and 20 in Washington; in 1926, it killed 136 in Los Angeles (which boasts a large percentage of eddyites and chiros). Average mortality in these cities—25 per cent. Improved methods of vaccination are described.

Ortho-iodoxybenzoic acid is regarded as a valuable drug in the treatment of arthritis. The editors are not endocrine enthusiasts. They set no value on products of glands other than the thyroid, pancreas, pituitary and adrenals.

From beginning (with an abstract on physical diagnosis) to end the section on diseases of the chest is of rare value. Heliotherapy in certain forms of tuberculosis has come to stay as a valuable adjunct. Thoracoplasty does wonders in selected cases.

The liver-diet treatment of pernicious anemia is regarded hopefully. Vagal pressure is said to be the effective means of stopping attacks of paroxysmal auricular tachycardia.



Abstracts and comments on cardiac therapeutics, blood pressure and nephritis are apt and instructive.

A great increase in the prevalence of amebic dysentery in the U. S. is noted and the value of certain papers cited. The summaries on diabetes and miscellaneous conditions give much of consequence which is new.

**CHEMISTRY IN AGRICULTURE**, Edited by Joseph S. Chamberlain, Professor of Agriculture and Organic Chemistry, Massachusetts Agricultural College, Advisory Editor, C. A. Browne, Chief, Bureau of Chemistry, United States Department of Agriculture, The Chemical Foundation, Inc., 85 Beaver Street, New York City.

A series of essays on how plants and animals grow and may be made to grow better; how their products may be best utilized by man; how agriculture may be seen as a continuing series of miracles.

**THE RIDDLE OF THE RHINE**, Chemical Strategy in Peace and War, by Victor Lefebure, Officer of the Order of the British Empire (Mil.), Chevalier de la Legion d'Honneur, Officer of the Crown of Italy, Fellow of the Chemical Society, etc., with a preface by Marshal Foch, and an introduction by Field-Marshal Sir Henry Wilson, Bart. Chief of the Imperial General Staff. The Chemical Foundation, Inc., 85 Beaver Street, New York City.

A discussion of the evolution of gas warfare—the surprise attack, the reaction, organization, American developments, German chemical policy, etc.

There is a chapter bearing the title "Humane or Inhumane?" The only pertinent comment seems to be that the habit of the Turks of former times of taking no captives was humane, because it shortened the wars.

**THE FUTURE INDEPENDENCE AND PROGRESS OF AMERICAN MEDICINE IN THE AGE OF CHEMISTRY**, A Report by John J. Abel, Carl L. Alsborg, Raymond F. Bacon, F. R. Eldred, Reid Hunt, Treat B. Johnson, Julius Stieglitz, F. O. Taylor, Charles H. Herty, Chairman. The Chemical Foundation, Inc., 85 Beaver Street, New York City.

An attractive booklet for which is asked "careful reading, discussion and consideration . . . by physicians and surgeons, by mothers and fathers, by educators . . . ."

**DICTIONARY OF BACTERIOLOGICAL EQUIVALENTS**, French-English, German-English, Italian-English, Spanish-English, by William Partridge, F.I.C., formerly Lecturer in Chemistry (Public Health), University of London, King's College, London Bailliere, Tindall and Cox, 7 and 8 Henrietta Street, Covent Garden, W. C. 2, 1927; The Williams & Wilkins Company, Baltimore, Md., U. S. A.

About 2,500 each of French and German terms are defined in English, and grossly half as many each of Spanish and Italian.

The book will prove of immense value, especially to research workers and others who find it necessary to keep posted to date on these foreign medical literatures.

**THE OUTLINE OF MAN'S KNOWLEDGE**, The Story of History, Science, Literature, Art, Religion and Philosophy, by Clement Wood, Decorations by Louis Bromberg, Maps by Ilonka Karasz, Lewis Copeland Company, New York, 1927. \$5.00.

Attempt is made to answer: What is the individual's object in life? What is the collective aim of the civilized society in which the individual lives?; "to present in a lively narrative form all of the important knowledge that man has gained in every field."

Chapters are on: The Coming of Civilization; The Halting of Civilization; The Awakening of Civilization; Mathematics; Chemistry; Physics; Astronomy; Biology; Psychology; Sociology; Literature of the East; Greece and Rome; Literatures of Europe; English Literature; American Literature; Painting; Sculpture; Architecture; Dancing; Music; and a whole Book on each of the subjects—Religion and Philosophy.

The maps serve to keep the reader oriented.

It is doubtful if so clear an exposition of so much that is valuable has been made in the same space.

**DISCOVERY**, or The Spirit and Service of Science, by Sir Richard Gregory, New York, The MacMillan Company, 1927.

A rare book of romantic adventure in the realms, not only of fact, but of truth; a book which feeds the imagination on verities of the first importance in so attractive a fashion as to, without removing the reader from solid ground, make him feel that he has been

taken up into the clouds and is due a thud.

**CREATIVE CHEMISTRY**, Descriptive of Recent Achievements in the Chemical Industries, by Edwin E. Slosson, M.S., Ph.D., Literary Editor of the Independent, Associate in Columbia School of Journalism. New York, The Century Company, \$3.00.

Big problems which concern us as individuals, as groups, and as nations are dealt with entertainingly and instructively by one who has knowledge and facility of expression.

Progress is roughly divided into three periods; the appropriative, the adaptive, and the creative. There is a chapter on "nitrogen" and another on "feeding the soil." "The race for rubber" is a far more important race than any which have been run *on rubber*. "The rival sugars," and "what comes from corn" hold special interest for doctors, despite a serious omission as to the latter.

**CHEMISTRY IN INDUSTRY**, A Co-operative Work Intended to Give Examples of the Contributions Made to Industry by Chemistry, in two volumes, Edited by H. E. Howe, Chairman, American Society Committee on Prize Essays. Editor Industrial and Engineering Chemistry. The Chemical Foundation, Inc., 85 Beaver Street, New York, N. Y.

These volumes bring forcefully to our minds the fact that by chemistry we live more and have our beings, and that, by fostering the advancement of knowledge of chemical changes we can make our labor more productive of the things which enrich and prolong our lives.

Readers will find revelations in the chapters which plainly point out our dependence on chemistry for our products of iron, cotton, fertilizing, illuminating, glass, leather, packing-house, paper, cooking, rubber and textile products. They will find intensely interesting chapters on catalysis, aviation, the chemical rainbow, earthenware, electric batteries, explosives, inks, matches, paints and colors, cement, rayon and soap.

The illustrations are clear and well chosen. The style is what we would call gripping, if we used the word.

**RECENT ADVANCES IN TROPICAL MEDICINE**, by Sir Leonard Rogers, C.I.E., M.D., B.S. (Lond.), F.R.C.P., F.R.C.S., F.R.S., Indian Medical Service, Ret., Physician and Lecturer, London School of Tropical Medicine. With 12 illustrations, \$3.50. Philadelphia, P. Blakiston's Son & Co., 1012 Walnut Street, 1928.

It is a pleasure to review a book which confines itself to advances, and which gives prominence to treatment and "other points of practical importance to the isolated medical man."

Additions to our knowledge of malaria, bacillary dysentery, amebiasis, sprue, hookworm disease and pellagra are of everyday importance to all of us.

The prophylactic action of quinine as to malaria is given in a way to be put to use. Valuable points in preparation and examination of slides are given. The treatment is given in great detail, as to method of administration, combination of quinine with alkalies, use of other derivatives of cinchona, etc.

The distribution, mode of transmission, economic importance and detailed treatment of amebic dysentery are discussed. The various theories as to the causation of sprue are evaluated, the complications and treatment described. Improved methods of discovering the eggs of hookworm are given, and the rival claims of the four efficient remedial agents compared.

The increase in deaths from pellagra in our territory in the past year or two is warrant for special concern and study. Middle ground is taken as to causation. The opinion is expressed that dietary deficiency and infection play parts. It is important to remember in this connection that little has been proved.



## CHUCKLES

### CALLING THE DOCTOR

Ah'm sick, doctor-man, Ah'm sick!  
Gi' me some'n' to he'p me quick,  
Don't,—Ah'll die!

Tried mighty hard fo' to cure mahself;  
Tried all dem t'ings on de pantry she'l;  
Couldn' fin' not'in' a-tall would do,  
An' so Ah sent fo' you.

"Wha'd A htake?" Well, le' me see:  
Firs—horhound drops an' catnip tea;  
Den rock candy soaked in rum,  
An' a good sized chunk o' camphor gum;  
Next Ah tried was castor oil,  
An' snakeroot tea brought to a boil;  
Sassafras tea fo' to clean mah blood;  
But none o' dem t'ings didn' do no good.  
Den when home remedies seem to shirk,  
Dem pantry bottles was put to work:

Blue-mass, laud'num, liver pills,  
"Sixty-six, fo' fever an' chills,"  
Ready Relief, an' A. B. C.,  
An' half a bottle of X. Y. Z.  
An' sev'al mo' Ah don't recall,  
Dey nevah done no good at all.

Mah appetite begun to fail;  
Ah fo'ced some clabber, about a pail,  
Fo' mah ol' gran'ma always said  
When yo' can't eat you're almost dead.

So ah got skeered an' sent for you.—  
Now, doctor, see what you c'n do,  
Ah'm sick, doctor-man. Gawd knows Ah'm sick!  
Gi' me some'n' to he'p me quick,  
Don't—Ah'll die!

—John Wesley Holloway in *The Book of American Negro Poetry*.

### OUT FISHIN'

A feller isn't thinkin' mean  
Out fishin';  
His thoughts are mostly good and clean  
Out fishin';  
He does not knock his fellow-men,  
Or harbor any grudges then;  
A feller's at his finest when  
Out fishin'.

A feller's glad to be a friend,  
Out fishin'.  
A helpin' hand he'll always lend  
Out fishin'.  
The brotherhood of rod and line  
An' sky and stream is always fine;  
Men come real close to God's design  
Out fishin'.

A feller isn't plotting schemes,  
Out fishin'.  
He's only busy with his dreams  
Out fishin'.  
His livery is a coat of tan,  
His creed—to do the best he can,

A feller's always mostly man,  
Out fishin'.

—*The Doctor*.

### POSSUM TIME

Hit's possum time in Randolph now,  
Cain't you hear old Drive an' Drum  
A-makin' uv that feller hump?  
Say, now they've got him on th' jump;  
He'll climb that big black-gum.

An' there goes Lead! That pup is fast,  
His tenor clear ez a bell;  
An' Queenie's alto; listen, Bud!  
That-air gal she's out fer blood.  
She gives a possum hell.

Old Run sounds hoarse a bit tonight,  
A-mutterin' in his throat;  
That Cicero Davis Walker hound  
'Sbest new dog that we have found  
This season. Hear that note!

"Too many dogs fer a possum hunt?"  
Say, how do you git that way?  
Th' dogs they like hit an' so do I,  
Fer a well-matched pack all in full cry  
Is wuth a full week's pay.

—Greensboro News.

### THE RENAISSANCE

When I was a lad of eleven or so,  
If memory serves me a-right,  
The legs of the maidens I happened to know  
Were always in obvious sight.  
Their stockings were black, with a high button shoe,  
In summer as well as December.  
I turn back the pages of childhood's who's who,  
And these are the legs I remember:

Lulu's were lumpy, and Ollie's were thin,  
Bess ran to ankles and Susie to shin,  
Nellie's were knock-kneed, and spread like a fan,  
Fanny had fat ones that shook when she ran.

Well—thirty-odd years are supposed to pass by;  
In fact, that is just what occurred;  
The legs of my childhood concealed from the eye  
By skirts, as you doubtless inferred.  
Then fashions for women restored them to view,  
Commuting their term of obscurity,  
And every fond leg that my infancy knew  
Now offers itself in maturity:

Lulu's still lumpy, and Ollie's still thin,  
Bess has more ankle and Susie more shin,  
Nellie's still knock-kneed (I laughed when she sat)  
And Fanny's are fatter—no doubt about that.

—*The L. H. J.*

### NOT ALL THERE

Lawyer—"Was the man you found under the street-car a total stranger?"

Witness (who had been told to be careful)—"No, sir, his arm and leg were gone; he was only a partial stranger."—*Bucknell Belle Hop*.



## SWEET REVENGE

A well-known official of a telephone company was rudely aroused from his slumbers by the ringing of his telephone. After bruising his knee on a chair, he reached the phone. "Hello," he growled.

"Are you an official of the telephone company?" asked the voice.

"Yes, what can I do for you?"

"Tell me," said the voice, "how it feels to get out of bed at two o'clock to answer a wrong number."

—*Whiteville News-Reporter*.

## COULDN'T FOOL HIM

A party of men left Devon to spend a week in London.

When they arrived in the capital they were surprised to see so many people in the streets, and stood in the doorway of a chemist's shop, surveying the scene.

Presently the chemist came up and asked if there was anything he could get them.

"No," said one; "we're waiting until the crowd has passed by."

"Crowd?" echoed the chemist. "There are just as many people here every day."

"Rubbish!" retorted the Devonian. "Because there's ten of us up from Exeter this morning.—*London Answers*."

## GASOLINE ALLEY FINALLY PUTS OUT

"Walt," dictating—"Dear Mr. Mulligan: Only the best of materials go into wicker furniture. We back up our goods and whatever is defective may be returned at our expense. Permit us to offer you our booklet, 'How to Sell Wicker Quicker,' with our compliments. Now read that from your notes."

Sweet Stenog—"Dear Mr. Mulligatawny: The best of materials go into wicker furniture. Back up. Our goods and whatever is defective may be returned if our expense permits us. We're offa you. Our booklet how to sell wicker quicker is our compliments."

"Get the low down on your child's progress at school," urges the Roanoke Rapids *Herald*. We have written the 23-year-old bachelor who edits the *Herald* for particulars as to how to secure the low-down.—*Greensboro News*.

## HERE'S HOPING THE SAME FOR SENATORS

A couple of veterans had been immersed in a scientific magazine.

"Believe me," cried the first, emerging from the pages, "with all these new inventions, the next war is going to be hell on soldiers, or I miss my guess."

"I'll tell the world," agreed the second. "In the next war even a field clerk's life won't be safe."



# Tri-State Medical Association of the Carolinas and Virginia

## OFFICERS

### PRESIDENT

Dr. Robert Wilson, jr. .... Charleston, S. C.

### VICE-PRESIDENTS

Dr. W. B. Lyles ..... Spartanburg, S. C.

Dr. F. C. Rinker ..... Norfolk, Va.

Dr. Wm. deB. MacNider ..... Chapel Hill, N. C.

### SECRETARY-TREASURER

Dr. J. M. Northington ..... Charlotte, N. C.

## EXECUTIVE COUNCIL

### TO SERVE ONE YEAR

Dr. William Allan ..... Charlotte, N. C.

Dr. L. T. Price ..... Richmond, Va.

Dr. Z. G. Smith ..... Marion, S. C.

### TO SERVE TWO YEARS

Dr. Douglas Murphy ..... Rutherfordton, N. C.

Dr. Warren T. Vaughan ..... Richmond, Va.

Dr. M. H. Wyman ..... Columbia, S. C.

### TO SERVE THREE YEARS

Dr. E. S. Boice ..... Rockv Mount, N. C.

Dr. F. B. Johnson ..... Charleston, S. C.

Dr. R. L. Payne ..... Norfolk, Va.

### REPORTER

Miss Mary Robinson ..... Raleigh, N. C.

## FEATURES OF THE PROGRAM

Thirtieth Annual Meeting Tri-State Medical Association, Virginia Beach, Virginia, February 14th and 15th.

All sessions to be held in the  
Cavalier Hotel

### Tuesday, February 14th, 10:00 A. M.

Some Practical Points about Cystoscopy, by Dr. R. B. Davis, Greensboro;

Thyro-glossal Duct Cyst, by Dr. H. S. Black, Spartanburg;

Goiter, by Dr. Addison Brenizer, Charlotte;

Results of the Surgical Treatment of Exophthalmic Goiter, by Dr. Carrington Williams, Richmond;

Some Pertinent Sources of Error in Diagnosis, by Dr. Warren T. Vaughan, Richmond;

Malta Fever, with Report of Cases, by Drs. J. P. Williams and F. W. Shaw, Richmond

### 1:00 P. M.—Luncheon

### 2:30 P. M.—Afternoon Session

#### SYMPOSIUM ON THE REDUCTION OF MATERNAL MORTALITY

STATEMENT OF THE CASE, by Invited Guest Dr. Harold Bailey, Associate Professor of Obstetrics and Gynecology in Cornell;

Common Faults in the Management of Normal Pregnancy, Labor and Puerperium, by Dr. Greer Baughman, Professor of Obstetrics in the Medical College of Virginia;

Common Faults in the Management of Abnormal Pregnancy, Labor and Puerperium, by Dr. L. A. Wilson, Professor of Obstetrics in the Medical College of the State of South Carolina;

Relative and Absolute Indications for the Induction of Premature Labor, by Dr. Pierce Rucker, Richmond;

Relative and Absolute Indications for the Use of Forceps, by Dr. Brodie Nalle, Charlotte;

Relative and Absolute Indications for Cesarean Section, by Dr. Oren Moore, Charlotte;

On what considerations should the Decision between Home and Hospital Delivery be Made?, by Dr. C. J. Andrews, Norfolk;

Cardio-vascular-renal Complications of Pregnancy and their Management, by Dr. Garnett Nelson, Richmond;

Urological Complications of Pregnancy and their Management, by Dr. A. J. Crowell and Dr. Hamilton W. McKay, Charlotte;

Ocular Complications of Pregnancy and their Management, by Dr. Joseph A. White, Richmond;

Tuberculosis Complicating Pregnancy and the Management of the Case, by Dr. C. C. Orr, Asheville;

Mental Disease Complicating Pregnancy and the Management of the Case, by Dr. O. B. Darden, Richmond;

The Hemolytic Anemia of Pregnancy, by Dr. Wm. Allan, Charlotte;

Surgery of Other Parts as Influenced by Pregnancy, by Dr. Murat Willis, Richmond.

### 6:00 P. M.—Dinner

### 8:00 P. M.—Evening Session

A GENERAL DISCUSSION, opened by Dr. Harold Bailey.

Address of the President, Dr. Robert Wilson, Charleston.

INVITED GUEST Dr. Joseph L. Miller, Clinical Professor of Medicine in Rush, will address the meeting on the Treatment of Pneumonia.

Cardiac Diseases in Children, by Dr. W. C. Davison, Duke University;

### 9 A. M.

Roentgen Ray in the Diagnosis of the Diseases of Duodenum and Gall Bladder, by Dr. Fred M. Hodges, Richmond;

Roentgen Ray Diagnosis of Non-Opaque Foreign Bodies in the Bronchi, by Dr. J. L. Tabb, Richmond;

Bronchoscopy, by Dr. C. N. Peeler, Charlotte;

End Results of Gall Bladder Surgery, by Dr. Chas. S. White, Washington, D. C.;

Some Common Problems in Gastro-enterology, by Dr. W. R. Graham, Richmond;

The Golden Rule in Surgery, by Dr. Southgate Leigh, Norfolk;

Local Anesthesia in Brain Surgery, by Dr. C. C. Coleman, Richmond;

Prostatectomy, by Dr. R. B. McKnight, Charlotte;

Relation of Morphine Addiction to Mental Disease, by Dr. W. C. Ashworth, Greensboro;

Treatment of the Stump atH ysterectomy, by Dr. Geo. H. Bunch, Columbia;  
 Observations on Determining the Dominant Factor of Ill-health in Complicated Cases, by Dr. J. H. Hiden, Pungoteague, Va.;

---

**1:00 P. M.—Luncheon**

---

**2:30 P. M.—**

**In Memoriam**

Dr. A. R. Taft, by Dr. F. B. Johnson, Charleston  
 Dr. A. T. Pritchard, by Dr. W. R. Griffin, Asheville  
 Dr. W. P. Whittington, by Dr. C. C. Orr, Asheville  
 Dr. C. V. Carrington, by Dr. R. C. Bryan, Richmond.  
 Dr. S. S. Gale, by Dr. J. T. McKinney, Roanoke.  
 Dr. J. Howell Way, by Dr. Cyrus Thompson,

---

**Election of Officers**

---

**Adjournment**

---

**INFORMATION**

Readers of papers will appreciate pertinent and helpful criticism of their productions. A medical assemblage is not the proper place in which to bring about an exchange of verbal bouquets. And, in order that a verbatim report of the discussions may be made by the stenographer, it is to be hoped that each speaker will precede his remarks by an announcement of his name and address, and that he will make his discussion audible and distinct to the entire assemblage. Unhearable remarks are irritating and uninformative.

It is hoped that every member present will participate in the discussion of the Symposium on the Reduction of Maternal Mortality.

A copy of each paper read at the meeting must be left on the desk of the secretary. These papers and the discussion of them will

be published in *Southern Medicine and Surgery*, the official organ of the association. Every member of the association should receive this journal. Failure to get the journal should be reported to the secretary.

There will be ample time for the reading and the discussion of each paper.

Errors and omissions in the program should be reported at once to the secretary. Suggestions for the improvement of the organization will be gratefully received.

On Wednesday afternoon immediately after luncheon the business session of the association will be held. At this meeting the president will be selected from the Virginia membership; a vice-president from each of the three states, and a secretary-treasurer from any one of the states. Vacancies in the council are filled by the council.

The association will meet in 1929 in North Carolina. Invitations from cities in North Carolina should be presented to the meeting of the executive council, the time and the place of which will be announced by the president.

A lantern and an operator will be available throughout the meeting for the use of those who wish to illustrate their papers by slides.

Every indication points to a largely attended meeting. Each member of the association should bring a non-member with him. All good doctors will be welcome at all the sessions. Visitors will be gladly supplied with "visitor's cards"; members without cards will please obtain theirs from bookkeeper by complying with the usual formality.

ROBERT WILSON, JR., M.D.,

*President.*

JAS. M. NORTINGTON, M.D.,

*Secretary-Treasurer.*





# Roster of Officers of the Tri-State Medical Association from Organization in 1898 to Date

(In response to a call, a temporary organization was effected at Virginia Beach, Va., August 31, 1898, with Dr. W. H. Cobb, President; Dr. Paulus A. Irving, Secretary, and Dr. H. H. Dodson, Treasurer.)

Year	Place of Meeting	President	Vice-Presidents	Secretary-Treasurer
1-1899	Charlotte, N. C.	*W. H. H. Cobb, Goldsboro, N. C.	H. B. Weaver, Asheville, N. C. C. W. Kollock, Charleston, S. C.	P. A. Irving, Richmond, Va., Secretary *H. H. Dodson, Greensboro, N. C., Treasurer
2-1900	Charleston, S. C.	*W. H. H. Cobb, Goldsboro, N. C.	*W. L. Robinson, Danville, Va. H. A. Royster, Raleigh, N. C.	Paulus A. Irving, Richmond, Va.
3-1901	Richmond, Va.	C. W. Kollock, Charleston, S. C.	*Manning Simons, Charleston, S. C. *John R. Gildersleeve, Tazewell, Va.	*J. N. Upshur, Richmond, Va.
4-1902	Asheville, N. C.	*J. N. Upshur, Richmond, Va.	*John W. Long, Greensboro, N. C. *S. C. Baker, Sumter, S. C.	H. A. Royster, Raleigh, N. C.
5-1903	Columbia, S. C.	*J. A. Burroughs, Asheville, N. C.	*Hugh M. Taylor, Richmond, Va. David A. Stanton, High Point, N. C.	Rolfe E. Hughes, Laurens, S. C.
6-1904	Danville, Va.	Davis Furman, Greenville, S. C.	*A. B. Knowlton, Columbia, S. C. Stuart McGuire, Richmond, Va.	Rolfe E. Hughes, Laurens, S. C.
7-1905	Greensboro, N. C.	*W. L. Robinson, Danville, Va.	*J. H. March, Fayetteville, N. C. *J. M. Fladger, Spartanburg, S. C.	Rolfe E. Hughes, Laurens, S. C.
8-1906	White Stone, S. C.	H. A. Royster, Raleigh, N. C.	William F. Drewry, Petersburg, Va. Gaston DeFoix Wilson, Spartanburg, S. C.	Rolfe E. Hughes, Laurens, S. C.
9-1907	Norfolk, Va.	Rolfe E. Hughes, Laurens, S. C.	Albert Anderson, Raleigh, N. C. J. W. Jervey, Greenville, S. C.	Rolfe E. Hughes, Laurens, S. C.
10-1908	Charlotte, N. C.	Stuart McGuire, Richmond, Va.	*Hugh M. Taylor, Richmond, Va. *I. M. Taylor, Morganton, N. C.	*J. Howell Way, Waynesville, N. C.
11-1909	Charleston, S. C.	Albert Anderson, Raleigh, N. C.	*J. A. Hayne, Greenville, S. C. W. E. Driver, Norfolk, Va.	*J. Howell Way, Waynesville, N. C.
12-1910	Richmond, Va.	LeGrand Guerry, Columbia, S. C.	Southgate Leigh, Norfolk, Va. *Edward C. Register, Charlotte, N. C.	*J. Howell Way, Waynesville, N. C.
13-1911	Raleigh, N. C.	Joseph A. White, Richmond, Va.	*Charles M. Rees, Charleston, S. C. J. Edward Stokes, Salisbury, N. C.	*J. Howell Way, Waynesville, N. C.
14-1912	Columbia, S. C.	*J. Howell Way, Waynesville, N. C.	W. P. Timmerman, Batesburg, S. C. Joseph A. White, Richmond, Va.	*J. Howell Way, Waynesville, N. C.
			William W. McKenzie, Salisbury, N. C. J. Wilkinson Jervey, Greenville, S. C.	*J. Howell Way, Waynesville, N. C.
			*Joseph Graham, Durham, N. C. *T. Prioleau, Lynchburg, Va.	*J. Howell Way, Waynesville, N. C.
			*Samuel Life, Lynchburg, Va. *W. E. Anderson, Farmville, Va.	*J. Howell Way, Waynesville, N. C.

\*Deceased.

## Secretary-Treasurer

## Vice-Presidents

## President

## Year Place of Meeting

	Thos. E. Anderson, Statesville, N. C.				
	Frank H. McLeod, Florence, S. C.				
	A. L. Gray, Richmond, Va.			Rolfe E. Hughes, Laurens, S. C.	
15-1913	Norfolk, Va.	A. E. Baker, Charleston, S. C.		A. J. Crowell, Charlotte, N. C.	
				*A. B. Knowlton, Columbia, S. C.	
				Stephen Harnsberger, Warrenton, Va.	Rolfe E. Hughes, Laurens, S. C.
16-1914	Wilmington, N. C.	Southgate Leigh, Norfolk, Va.		*E. Reid Russell, Asheville, N. C.	
				J. H. Taylor, Columbia, S. C.	
				J. Allison Hodges, Richmond, Va.	Rolfe E. Hughes, Laurens, S. C.
17-1915	Charleston, S. C.	*E. C. Register, Charlotte, N. C.		*Charles T. Harper, Wilmington, N. C.	
				F. H. McLeod, Florence, S. C.	
				Carl V. Reynolds, Asheville, N. C.	Rolfe E. Hughes, Laurens, S. C.
18-1916	Richmond, Va.	Jas. H. McIntosh, Columbia, S. C.		Beverley K. Tucker, Richmond, Va.	
				G. Augustus Neuffer, Abbeville, S. C.	
				James K. Hall, Richmond, Va.	Rolfe E. Hughes, Laurens, S. C.
19-1917	Durham, N. C.	J. Allison Hodges, Richmond, Va.		Addison G. Brenizer, Charlotte, N. C.	
				J. R. Young, Anderson, S. C.	
				James K. Hall, Richmond, Va.	Rolfe E. Hughes, Laurens, S. C.
20-1918	Charleston, S. C.	D. T. Tayloe, Washington, N. C.		Addison G. Brenizer, Charlotte, N. C.	
				J. R. Young, Anderson, S. C.	
				Douglas VanderHoof, Richmond, Va.	Rolfe E. Hughes, Laurens, S. C.
21-1919	Richmond, Va.	R. S. Cahcart, Charleston, S. C.		L. A. Crowell, Lincolnton, N. C.	
				*Francis A. Coward, Columbia, S. C.	
				C. M. Miller, Richmond, Va.	Rolfe E. Hughes, Laurens, S. C.
22-1920	Charlotte, N. C.	Robert C. Bryan, Richmond, Va.		A. J. Crowell, Charlotte, N. C.	
				*A. R. Taft, Charleston, S. C.	
				H. S. Hedges, Charlottesville, Va.	James K. Hall, Richmond, Va.
23-1921	Spartanburg, S. C.	J. P. Munroe, Charlotte, N. C.		*J. A. Williams, Greensboro, N. C.	
				*W. W. Fennell, Rock Hill, S. C.	
				Karl S. Blackwell, Richmond, Va.	James K. Hall, Richmond, Va.
24-1922	Norfolk, Va.	*W. W. Fennell, Rock Hill, S. C.		J. T. Burrus, High Point, N. C.	
				H. R. Black, Spartanburg, S. C.	
				W. E. Driver, Norfolk, Va.	James K. Hall, Richmond, Va.
25-1923	High Point, N. C.	*S. S. Gale, Roanoke, Va.		J. P. Battle, Rocky Mount, N. C.	
				*R. B. Epling, Greenwood, S. C.	
				W. L. Peple, Richmond, Va.	James K. Hall, Richmond, Va.
26-1924	Greenville, S. C.	Chas. O'H. Laughinghouse, Raleigh, N. C.		D. A. Stanton, High Point, N. C.	
				S. B. Sheard, Gafney, S. C.	
				Garnett Nelson, Richmond, Va.	James K. Hall, Richmond, Va.
27-1925	Richmond, Va.	F. H. McLeod, Florence, S. C.		C. S. Lawrence, Winston-Salem, N. C.	
				E. W. Carpenter, Greenville, S. C.	
				R. L. Payne, Norfolk, Va.	James K. Hall, Richmond, Va.
28-1926	Fayetteville, N. C.	W. Lowndes Peple, Richmond, Va.		Roy P. Finney, Spartanburg, S. C.	
				J. T. Burrus, High Point, N. C.	
				L. T. Price, Richmond, Va.	James K. Hall, Richmond, Va.
29-1927	Columbia, S. C.	A. J. Crowell, Charlotte, N. C.		H. S. Black, Spartanburg, S. C.	
				Seavy Highsmith, Fayetteville, N. C.	
30-1928	Virginia Beach, Va.	Robert Wilson, jr., Charleston, S. C.		F. C. Rinker, Norfolk, Va.	
				W. B. Lyles, Spartanburg, S. C.	
				W. DeB. MacNider, Chapel Hill, N. C.	
					Jas. M. Northington, Charlotte, N. C.

\*Deceased

# Southern Medicine and Surgery

VOL. XC

CHARLOTTE, N. C., MARCH, 1928

NO. 3

## THE STATEMENT OF THE CASE FOR THE REDUCTION OF MATERNAL MORTALITY

BEING THE OPENING OF A SYMPOSIUM HELD BY THE TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA, AT VIRGINIA BEACH, VIRGINIA, FEBRUARY 14TH AND 15TH

HAROLD BAILEY, M.D., F.A.C.S.  
Associate Professor of Gynecology and Obstetrics  
Cornell University Medical School  
New York City

The maternal mortality in the United States is very high. In the section that constitutes the so-called birth registration area—that is, the states that have approximately 90 per cent registration of births—the rate varies in different years, but the average is 70 per 10,000 live births. At this figure it may be estimated that 20,000 women die each year of causes relating to child-birth. Moreover 200,000 infants lose their lives, 100,000 during birth and 100,000 in the first month of life. The reduction of this tremendous loss of 220,000 lives a year is our problem.

I should like here to protest against the United States being placed nineteenth on the list of civilized nations as regards maternal mortality. Conditions and methods of acquiring and presenting the statistics are so different in the various countries that a direct comparison cannot be made. Such a comparison is similar to comparing the rate of the northern states where there are few negro women to that of the southern states where there are many. The women of some countries apparently stand the vicissitudes of child-birth very well; the Italians have a rate of 40 per 100,000 live births and the Norwegians and Swedes about the same. In English speaking countries the rates are approximately alike.

One reason for the higher rate in the United States is the presence of large numbers of negro women. The mixed Spanish races and the colored race are particularly bad risks owing to their lack of stamina and of general

resistance, combined with their scant knowledge of hygiene and poor methods of living. In certain of our southern states the rate for the negro women is nearly twice as high as for the white. It is probable that the hardiest of the colored race came north; yet, in New York City where we have a very large colored settlement (estimated at 213,000), the death rate of the negro women is more than twice as high as for the white. The city of New York in the year 1926 had a maternal death rate per 1,000 still births and live births of 4.26 for the white women and 9.56 for the colored women. In reviewing these rates we must remember that these colored women live in neighborhoods where prenatal, nursing and hospital care are easily obtainable. In one of my teaching clinics (Berwind Maternity Clinic), where the death rate for the years 1922 to 1926 was 2.6 per 1,000, 46 per cent of the patients are colored women and their death rate is the same as that for the white.

This shows that intensive nursing and maternity care of the colored women in their own homes will reduce their mortality to that of the white.

As a logical step in the study of maternal mortality the deaths must be classified. As might be expected those due to puerperal septicemia comprise about one-third of the total. *Without question this disease is largely preventable, as it is usually caused by infection carried into the genital tract during labor. Lack of sterility of the genital area, lack of sterility of the hands and gloves*

*of the practitioner, too frequent examinations to determine the course of labor and too radical operative procedures to aid delivery, all contribute to infection.*

Operative delivery, with the resultant trauma and necessity of passing the hands and instruments into the genital tract, predisposes to sepsis. It has been shown in the English statistics that one-half of the cases of sepsis follow operative delivery. In New York State one out of every five maternal deaths follows cesarean section and the figure for Massachusetts is but slightly lower. This high rate is due, not so much to the operation as to the improper selection of the cases and the use of the mid-abdominal technic in patients already in labor. In 1922 in one issue the *Journal of the American Medical Association* were published one paper from New Orleans which presented a series of 117 cases of cesarean section with 35 per cent maternal mortality—16 of the patients dying of the operation, and 25 from the disease for which the operation was performed; and another paper from Chicago reporting a series of 145 cases with a rate of less than 1 per cent.

*An operator who is unprepared to do a low transperitoneal cervical cesarean section should not undertake a cesarean operation. It is not generally understood that the cesarean operation carries a higher mortality than any other form of laparotomy.*

Such operations as the so-called prophylactic forceps should be abolished altogether. Forceps control of the head as it lies on the pelvic floor should be given up as a routine procedure. Episiotomy or cutting down on the perineum is not an operation for the home, and should be done infrequently in the hospital.

Now for some of the more simple measures of prevention. *All normal labors may be conducted to spontaneous delivery without either vaginal or rectal examinations.* In vaginal examinations, even though the gloved hand may be clean, the operator carries bacteria from the lower part of the vaginal tract to the upper; and in rectal examinations the examining finger in the rectum pushes upward the lower part of the overlying vaginal wall until it contaminates the region near the cervix. In 4,396 indoor deliveries, in the past five years, on my Bellevue Hospital service, 2,362 (53.8%) were conducted without vagi-

nal or rectal examination. Among these 2,362 cases in which delivery was spontaneous and without rectal or vaginal examination, there were three cases of sepsis with two deaths, showing that there is sometimes an endogenous infection; that is, an infection residing within the woman herself, which may cause puerperal septicemia. In our cases of endogenous infection, the cause was not hematogenous in origin from teeth or tonsils but probably from the introduction of bacteria through intercourse which was admitted to have occurred during the last few days of pregnancy. The complete elimination of vaginal examinations by midwives is an ideal to be sought for and is not impractical because at the Bellevue School for Midwives, in 1926, 73.4 per cent of the deliveries were conducted without internal examinations.

The second most frequent cause of death is toxemia. This includes eclampsia, puerperal convulsions and albuminuria, and amounts to 20 per cent of the death rate. Eclampsia as an end stage of toxemia is to a large extent preventable. In the case under the care of the New York Maternity Center Association, we were able to reduce eclampsia to one-third of the city rate. The prevention of this most serious complication of pregnancy is a matter of hygiene—bathing, proper eliminative measures and dieting. Many of the deaths from eclampsia and from the severe types of toxemia are due to operative measures employed for delivery. Rapid delivery from below—*accouchement force*—will raise the death rate of eclampsia from 8 or 10 per cent to 50 per cent. Another method of delivery in eclampsia—cesarean section—carries a very high death rate, 50 per cent, according to the English statistics. We know now, and it is generally accepted in the East, that medical treatment with morphine and chloral, and delivery only when spontaneous labor advances the head to the outlet, has the lowest mortality,—less than 10 per cent.

The third cause of maternal deaths and about 20 per cent of the rate, are the hemorrhages of pregnancy and labor. The two most common forms, placenta praevia and premature separation of the placenta are, so far as we know, absolutely non-preventable. There is, however, room for improvement in the methods of treatment. The patient must not be operated during shock from hemor-



rhage. Transfusion should be more generally used and the intravenous injection of gum glucose to bring the patient out of shock should be popularized. With very few exceptions these cases offer the best prognosis when treated by delivery from below. Before delivery occurs the cervix must be fully dilated. This is a primary rule and must never be forgotten. Rupture of the lower uterine segment—the cause of many deaths—is frequently due to traction and the extraction of the child through an imperfectly dilated cervix.

Postpartum hemorrhages are often caused by the conduct of the labor. Prolonged anesthesia, too long labor and too great rapidity in the expulsion of the placenta are the common causes of this calamity. It must be remembered, also, that in all bleeding cases the dangers of the development of sepsis are greatly multiplied and while an unsterile hand or gauze or a douche nozzle inserted into the body of the uterus may save the patient temporarily, she is very likely to die later of sep-

ticemia.

The remaining deaths may be listed under accidents of pregnancy and labor. Embolism and thrombosis, rupture of the uterus and shock are the main titles under which these cases fall, and shock is the most common of these.

In conclusion, I may say that every woman who is pregnant should receive prenatal as well as natal care. Prenatal care should be in the hands of the doctor as head of the clinic and natal care must be provided by *trained* midwives and physicians. Operative delivery should be done, as far as possible, in community hospitals which should be established in every county. Hygienic instruction, especially in regard to eliminative measures, diet and sexual relations, must be furnished every pregnant woman. Operative obstetrical procedures, except emergency measures, should not be undertaken by men who have not a special training in the art of surgery.

## COMMON FAULTS IN THE MANAGEMENT OF NORMAL PREGNANCY, LABOR AND PUERPERIUM\*

GREER BAUGHMAN, M.D., F.A.C.S.

Professor of Obstetrics, Medical College of Virginia  
Richmond

That maternal and infant mortality is high over the whole world, and particularly high in America, is recognized by all of us. A symposium upon this subject is particularly important just now for the purpose of arousing general interest in this subject and of stimulating those of us who are already working upon this problem to renewed effort.

For purposes of study the common faults in the management of normal pregnancy, labor and puerperium might be discussed under two heads; the one the aspect of the public towards the subject of child bearing, and the other the common faults of the midwife and the doctor.

Child bearing has been looked upon for

such a long time as a normal physiological process by the public and most physicians that the fact of very constant pathology appearing in practically every carefully followed case is hard to get across. The woman who will seek medical advice at once for nausea and vomiting will regard nausea and vomiting as a necessary accompaniment of pregnancy. We have inherited from our European ancestors the deep-rooted conviction that the pregnant state is normal; and also the idea that child bearing is such a feminine process that it should be attended by a woman. The latter idea is fast disappearing except among recent immigrants. The reason for women seeking delivery by midwives now is more a financial one.

Ignorance and lack of money seems to me to be the reasons for the faults on the part of the public.

\*Read as part of a symposium on The Reduction of Maternal Mortality before the Tri-State Medical Association of Virginia and the Carolinas at Virginia Beach, Va., February 14, 1928.

The common faults on the part of the profession and midwives will be a little more difficult to analyze; but certainly ignorance and lack of money will be two of the elements, just as with the public.

It is the doctor who makes contact with the normal case of pregnancy, if any one does. Too often he takes the case over in a perfunctory way without using his imagination to even consider the things that may happen in pregnancy, during labor or in the puerperium. Consequently the case has only a cursory examination instead of a careful investigation to determine the presence of diseased organs or a tendency that might be corrected with tremendous benefit to the patient. The pelvic examination is usually entirely omitted. *My own idea about pelvimetry is that a careful mapping out of the pelvis by vaginal examination is worth much more than a set of measurements. The most criminal neglect, however, is failure to examine the urine.* If every pregnant woman would have her urine examined regularly, and, when albumin and casts are found have something done about it, the maternal deaths would be reduced more than half. Judged by the patients who come into hospitals in bad condition, the failure to examine the urine and ascertain the blood pressure is the most common fault, to be followed closely by failure to estimate properly the fit of the passenger to the passage; while general lack of hygienic instruction is not far behind.

*When it comes to labor the most common fault is the lack of knowledge of the physiology of the lower uterine segment. Trying to force a baby through an undilated and unparalyzed cervix does more damage to mothers, and causes the death of more babies than does syphilis.*

The next most common fault is the inability to correctly estimate the fit of the head to the pelvis. To correctly solve this mechanical problem requires more experience, skill and laboratory facilities than most fam-

ily doctors have at their command. The experts are frequently at fault after they have brought to bear all of their skill including the aid of the x-ray. It is one of the most fascinating parts of the obstetrician's work, involving as it does the life of the baby and frequently that of the mother.

The lack of cleanliness—both the social and the bacteriological—is probably the next most common fault. We see only occasionally the results of dirty obstetrics except in the hands of the midwives. Infection is so commonly found in association with poor judgment—either as to the dilatation of the cervix, or, as to the fit of passage and passenger—that it might be considered as usually secondary to the other two.

The common faults of the pregnancy and labor react upon the puerperium. *A well directed pregnancy and skillfully conducted labor will give a normal puerperium.* There is, however, one common fault that leads to rather severe consequences unless corrected. I speak of allowing a bladder to go too long unemptied. The partially full bladder can be catheterized with impunity; but an over-distended one will almost invariably give cystitis with all the attendant ills. The care of the breasts should start way back in pregnancy and be continued through the puerperium. Failure to attend to this apparently insignificant detail may end disastrously to mother and baby.

The ideal obstetrician should have—in common with the family doctor, and the specialist in every field of medicine—knowledge, judgment, honesty, good nature, and above all *patience*.

Patience is of such vital importance that it almost outranks obstetrical judgment. *I am rather of the opinion that impatience on the part of the mother, the family and—unfortunately—the doctor kills more mothers and babies than poor obstetrical judgment.*

26 North Laurel Street.



## COMMON FAULTS IN THE MANAGEMENT OF ABNORMAL PREGNANCY, LABOR AND PUERPERIUM\*

L. A. WILSON, M.D.

Professor of Obstetrics, Medical College of the State of South Carolina  
Charleston

### PREGNANCY

One of the common faults in the management of abnormal pregnancy is the attitude many of us take toward pre-eclamptic toxemia. It is all too frequently looked on with an air of mysticism and not as an entity. If physicians would regard a toxic pregnant patient as one having a definite poison affecting all of her organs, then they would be encouraged to watch her more closely. Eclampsia never strikes without warning and can be entirely prevented by conscientious prenatal care, such as, taking the blood pressure, making a urinalysis, and weighing the patient once a month until the sixth month, and after that every two weeks until she is delivered. At these frequent conferences such symptoms as headache, swelling, blind spells, epigastric pains, nausea and vomiting are also looked for and the pregnancy terminated when necessary.

There seems to be a tendency for us to overlook the immediate causes of death in treating toxemias. The greatest cause of death is shock from convulsions; then follow pains, nausea and vomiting are also looked myocardial degeneration, nephritis, cerebral and hepatic apoplexy, premature separation of the placenta, and puerperal infection. If these causes are kept in mind a good many patients who now die could be saved. For instance, if a patient with convulsions, whose greatest danger is shock, is delivered by cesarean or *accouchement force* (the two methods of delivery which cause more shock than any other) the element of risk is greatly increased. A slow, natural delivery in such a condition is best. This is why the Stroganoff or the magnesium sulphate treatment—conservative measures—have a mortality around 10 per cent; while cesarean is as high as 60 per cent.

Myocardial degeneration is one of the most serious results of a toxemia, and pregnancy must be terminated early if symptoms of this condition appear.

Long-drawn-out toxemias tend to produce premature separation of the placenta, and degeneration of the liver, kidney and central nervous system, and must be watched for and labor induced if any such symptoms appear.

The two most common causes of antepartum hemorrhage are placenta previa and premature separation of the placenta. The indications to be met in their treatment are entirely different, yet the differential diagnosis is often overlooked. The symptoms do not help us much, as they may be present in either condition. The diagnosis can only be made by digital examination of the cervix. In placenta previa the placenta can be felt attached around the cervix, while in premature separation it can not be palpated. In premature separation of the placenta the patient must be delivered at once, as it is impossible to control the hemorrhage until the uterus is emptied. In placenta previa, rapid dilatation of the cervix is contraindicated because of the dangers of lacerating the cervix, which will cause fatal post partum hemorrhage. In the treatment, then, of placenta previa, dilatation should be slow, preferably with a number 6 Voorhees bag, followed by version after dilatation is complete. In premature separation of the placenta the picture is different, and the patient must be delivered rapidly even if necessary by *accouchement force*. In the complete separation of the placenta and the central placenta previas, cesarean has come to be the delivery of choice; because then, when a uterus does not contract after delivery to control hemorrhage, or there is a laceration of the cervix with hemorrhage, a hysterectomy can be performed when it is deemed advisable.

The preventive treatment of hyperemesis gravidarum is often neglected. If nausea and vomiting of pregnancy are treated early by

\*Read as part of the Symposium on The Reduction of Maternal Mortality held by the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th and 15th.



means of light lunches, forced at intervals of every two or three hours, eaten whether the patient feels like it or not; and given mild sedatives, suitable hygienic surroundings and proper mental attitude, most cases of severe hyperemesis can be prevented. I have not found it necessary to induce labor or even give a hypodermic injection in any case in my private practice in the last ten years, which I attribute to this care during the early months of pregnancy.

#### LABOR AND THE PUERPERIUM

Some of the common faults of abnormal labor are *first*, and probably greatest, trying to hasten delivery through an undilated cervix. Methods for hastening labor or operative interference should never be attempted until the cervix is fully dilated, and if the head is below the cervix it is still better. When this principle is disregarded the cervix is always lacerated and the chance of injuring the child is materially increased.

*Second*, induction of labor before maturity in the relatively contracted pelvis has given very poor results. Statistics show that a larger percentage of babies are lost when labor is induced early than when they are allowed to go into labor normally. This is because it is so difficult to institute forceful pains in induced cases. The best plan of treatment was advocated by Newell of Boston. The test of labor, which is to allow the patient to have second stage pains for several hours, after which, if the head is not engaged, the patient may be delivered by laparotrachelotomy. Care is taken not to infect the patient during this test. De Lee and Williams both favor this plan of management, but do not quite agree as to the length of time that a patient should remain in labor before operative interference. The general consensus of opinion is that the patient be permitted to have second stage pains for at least four hours without engagement before we would regard the case as one in which cesarean is necessary.

*Third*, the practice of allowing breech presentations to deliver spontaneously is fraught with danger. As soon as the cervix is fully dilated the patient should be completely anesthetized, the buttocks brought well over the edge of the table, the perineum dilated manually, and delivery made. The feet should be brought down by Pinard's maneuver and the head delivered by Wiegand's

maneuver recently modified by Potter, which is to force the child's head through the pelvis by pressure from above the symphysis. This increases flexion and eliminates the necessity of traction on the child's neck.

*Fourth*, many opportunities to perform minor operations on our hospital cases are not taken advantage of. Such operations as repairing old perineal lacerations, removal of hemorrhoids, etc., may be safely performed; and the advantages are obvious.

*Fifth*, some important factors in the causes of puerperal infection are often disregarded. They are, conserving the patient's vitality by shortening labor as much as possible, and in operative cases doing as little trauma as possible. My prophylactic treatment of infection is to never make a vaginal examination if a rectal examination will elicit the information desired. When a vaginal examination is made the same aseptic technique is used as in a laparotomy. Never give douches. Do not allow the patient to take a tub bath just before or during labor. Never permit the uterus to become exhausted. It increases the dangers by causing postpartum hemorrhage, etc. In fact the shorter the labor the better. Williams has shown, by taking cultures from the uterus while performing cesareans on patients who had been in labor for some hours, that all uteri are infected after about four hours of labor. I believe this is true.

Blood transfusions are very valuable in the treatment of puerperal infection both as a prophylactic and a curative measure. Early and complete drainage should be encouraged by elevating the patient's head. An ice cap should be applied to the abdomen and fluid extract of ergot administered. Operative interference and exploring the uterus are absolutely contraindicated in the treatment of puerperal infection, except after a pelvic abscess has formed.

*Sixth*, a final pelvic examination about two months after labor should always be made. Such conditions as subinvolution, mal position, and localized infection can be discovered and treated. Lacerations of the cervix and perineum can be repaired if the immediate repair was unsuccessful. Localized infection, especially of the cervix, often becomes chronic and causes considerable trouble unless treated early.



## THE RELATIVE AND ABSOLUTE INDICATIONS FOR PREMATURE INDUCTION OF LABOR\*

M. PIERCE RUCKER, M.D.  
Richmond, Va.

In the last FitzPatrick lecture on "The History of British Midwifery" Dr. Herbert Spencer says that the characteristic of British midwifery in the 150 years after Harvey was conservatism. "Although by some practitioners carried to excess, it led to laudable attempts, exclusively British, to avoid operations of craniotomy which sacrificed the child, and of caesarean section and symphysiotomy which so often proved fatal to the mother. In order to overcome the difficulty of contracted pelves, British obstetricians proposed to diminish the size of the passenger either by induction of premature labor or by restricting the mother's diet. The former procedure was first carried out by Macauley (in 1756); the latter by Lucas of Leeds in 1794." This was of course before the days of asepsis and of anesthetics. At the end of this period (1840) Goode says, in his lectures on Midwifery at St. Bartholomew's Hospital: "The continental practitioners are as reluctant to induce labor artificially as we are to perform the section of the symphysis pubis. Although, then, it can not be said that the plan of inducing labor artificially is an infallible one for preserving the life of the child, still it affords a probability of this success; at all events it will render the labor more easy, and less dangerous to the mother. \* \* \* \* \* The methods of performing the operation which will be followed by labor are two. The common one consists of puncturing the membranes with a male or female catheter." The second method is to pass the hand completely into the vagina, and introducing the fore finger gradually through the os uteri, peel off the membranes all round the cervical portion of the uterus. Expulsive action of the uterus will generally come on in about 48 hours. He says that sometimes great disturbance of the nervous system is produced by the operation, such as rigors, rapid pulse and delirium, but cease either when the pains begin or else after the uterus is emptied. In contrast he says of section of the symphysis pubis: "The operation has

been performed in this country (England) but once; and in that case, strange to say, it succeeded; but in ten days afterwards, the woman died, not from the operation, but from drinking porter and brandy." He says that the cesarean operation has been performed about 30 times, and in no single instance has the woman recovered.

With the advent of asepsis and anesthesia, the feasibility of cesarean section has increased tremendously, as has also that of pubiotomy or symphysiotomy as advocated by Pinard. Nevertheless premature induction of labor has still a very definite place. Ivans, Cantrell and Reid report an incidence of 206 in 10,000 labors in the Queen Charlotte Hospital. At St. Thomas', according to Thompson, there were 146 premature inductions in 3,600 cases (4.08 per cent). Connan and Owen-Jones report 123 inductions for contracted pelvis in 8,000 labors at the London Maternity Hospital. In this country the tendency has been to follow the continental teaching; i. e., that premature induction of labor has no place in the treatment of contracted pelvis. Yet Norris reports 140 inductions in 5,000 cases at the Preston Retreat (2.8 per cent), more than half of which were done for pelvic deformity. Johnson reports 80 inductions in 500 personal cases. Goldsboro, Fullerton and our own late lamented Burnley Lankford have written on this subject in the last few years.

### INDICATIONS

The excellent classifications of indications by Williamson (Herbert) are as follows:

#### I. *In interest of the child*

- (a) Cases in which pelvis is normal, but the fetus attains an unusual degree of development
- (b) Cases in which death of the fetus occurs habitually in the later weeks of gestation
- (c) Cases of contracted pelvis

#### II. *In interest of the mother*

- (a) When the life of the mother is en-

dangered, or where acute symptoms have arisen, as the result of some pathological condition which depends solely upon pregnancy

- 1. Toxemia of pregnancy
- 2. Chorea gravidarum
- 3. Uterine hemorrhages
- 4. Hydramnios
- 5. The pyuria of pregnancy

(b) Where some pre-existing disease is aggravated by the accident of pregnancy

- 1. Diseases of the circulatory system (as hyperthyroidism)
- 2. Diseases of the respiratory system
- 3. Diseases of the urinary system
- 4. Certain general diseases (as diabetes, hemoglobinuria, osteomalacia and purpura)

To the "II (a)" section of the above classification one must add a sixth rubric—increasing maternal discomfort—to bring the classification up to date. Thirty out of Watson's 276 cases come under this category. Then, too, there are certain cases of acute cholecystitis which require our adding a fifth rubric to "II (b)."

The induction of labor for I "a" and "c," that is to avoid a disproportion between the fetus and the pelvis, gives rise to the greatest controversy. The argument is advanced that even in definitely contracted pelvis spontaneous delivery will take place in 80 per cent of the cases. Our honored guest has shown this in a large series of cases at Bellevue in New York. In 477 cases of contracted pelvis, treated by cervical cesarean section when the head does not engage with 12 hours of hard labor, there were three maternal and 29 infant deaths. On the other hand, Montgomery, after reviewing the results of the classical cesarean section in the year ending September, 1926, at the Jefferson Medical College Hospital, concludes that there should be a more earnest effort to reach a decision for or against cesarean section early in labor or before it begins.

This brings up for consideration the relative risks of elective cesarean section and premature induction of labor. The maternal mortality of the former under ideal surroundings and in the hands of experts is variously stated as between 1 per cent and 3 per cent.

The fetal risk is generally presumed to be nil. Williamson, however, says that the fetal death rate in cesarean sections is much greater than it is supposed to be. The maternal risk of premature induction of labor varies greatly with the class of cases. For instance, Bainster reports 745 cases of induction of labor for contracted pelvis with one maternal death. In the 206 inductions at the Queen Charlotte Hospital there were no maternal deaths. Sir John Phillips on the other hand had a maternal mortality of 4.3 per cent. Among his 161 cases there were one osteo-sarcoma of the thigh, 1 secondary hepatic cancer, 1 case of acute bronchitis, influenza and hydramnios, 12 placenta previa, 12 cases of cardiac disease, 2 emphysemas. Thompson says that the arguments against induction of premature labor are (1) increased risk of sepsis, (2) unfavorable state of mind in the expectant mother, (3) risk of premature infant not surviving, (4) that the pelvic cavity is not fully exploited. He examines the first and third points in the light of the experience in St. Thomas' Hospital in the six years 1920-25. In "group I" he puts the 44 toxic cases. "Group 2" is composed chiefly of cases showing a disproportion between the fetal head and the pelvis with a few cardiac cases. In this group there was one maternal death from puerperal insanity—the patient jumping over the ward balcony,—and 3 cases of pyrexia; a morbidity of 3.92 per cent. Of the 44 toxemia patients there were 2 mothers who died, 1 from uremia and 1 from septicemia. The three with pyrexia recovered. The morbidity rate for the combined groups was 7.1 per cent as compared with the general morbidity rate for the ward of 6.8 per cent. In the 102 cases of "Group 2" three were 12 still births, two of which were macerated. The rearing of the babies that lived offered no particular difficulty. At the end of the first year of life, 68 were known to be well, 17 were lost track of and 5 had died.

Briggs presents his experience with premature induction of labor and cesarean section in a table as follows:

*Labor induction (159 cases)*

8 stillbirths

5 neonatal deaths

0 maternal deaths

*Average birth weights*

Hospital	6	1-16 lbs.
Private	6	11-16 lbs.
<i>Cesarean section (104 cases)</i>		
1 stillbirth		
3 neonatal deaths		
2 maternal deaths		
<i>Average birth weights</i>		
Routh's cases	7	3-16 lbs.
Hospital	7	1-16 lbs.
Private	7	14-16 lbs.

This I believe gives a true picture of the relative risks of the two operations.

Norris' dictum that induction of labor has no place when the true conjugate is less than 8.5 cm. is I believe a sound one. In those cases whose conjugate is over 8.5 cm. the management of each individual case must be determined by a number of factors, one of which is whether the patient wishes to run more maternal risk or more risk of a still-birth.

In those cases ("I, b") in which there is a history of fetal death in the last few weeks of pregnancy, the induction of labor before this period should be advised. The risk of losing the baby in any event is too great to justify the increased maternal risk of a section.

The toxemias of pregnancy offer perhaps the largest field of usefulness for this procedure. The fetal death rate in such cases is so great under any method of treatment that our chief concern is the life and future well-being of the mother. Such patients who do not rapidly improve under rest in bed and appropriate diet and elimination should have the uterus emptied, regardless of the stage of pregnancy. In most of such cases, labor is induced with surprising ease, probably due to the concomitant changes in the placenta. Under this head belongs the occasional case of fetal death in which labor does not occur spontaneously, the so-called missed abortion. As soon as the fetal death can be definitely diagnosed labor should be induced as a prophylaxis against toxemia.

With chorea gravidarum I have had no experience. All authors are in accord that this grave complication calls for the termination of pregnancy.

At present there is a great division of opinion in regard to the treatment of uterine hemorrhages. Bill and Kellogg have recently recommended routine cesarean section in the treatment of placenta previa. Most authors,

however, reserve this operation for the cases with rigid cervixes. The cases of placenta previa that I have seen have offered no difficulty in the insertion of a voorhees bag and dilatation has taken place unusually rapidly. The bag should be a "No. 5" size so as to give full dilatation, and the operator should have everything in readiness for a prompt delivery should this be necessary when the bag is expelled from the cervix. My own preference is for an extra-ovular placement of the bag.

The histological picture of the uterine muscle fibres spread apart by extravasated blood that is seen in the severer types of ablatio placentae, has created a fondness for cesarean section in such cases and even for hysterectomy. FitzGibbon, however, is convinced that such uteri contract as well as any other and reports better results since he had abandoned the more radical treatment. Burgess also reports excellent results with gauze packing and a tight abdominal binder.

The treatment of hydramnios causes no argument. All save the minor degrees should be treated by puncturing the membranes. It is well to bear in mind the frequent association of deformed fetuses with this condition.

There are certain cases of pyuria of pregnancy that do not respond to medical treatment. These cases have high temperature of a septic type, and unless relieved promptly, result in damage of the kidney substance. The improvement in such cases when the uterus is emptied is almost magical.

Increasing maternal discomfort as an indication for induction of premature labor, is the product of the ease-loving age in which we live. Over 40 per cent of Watson's cases were for this cause. Fullerton, Johnson and Lankford also describe such an indication for the induction of labor.

Finally we come to the class of patients who have grave constitutional disease that is aggravated by pregnancy. The worth-while termination of pregnancy for most of the cases that fall into this category is, as Norris says, distinctly an early operation, and as such is outside the scope of this paper. There are, however, certain exceptions. Certain cases of kidney disease can with careful watching, rest, and proper diet be carried to term or at least near enough to term for the baby to have a good chance of surviving. I



have in mind a baby that weighed less than 2 pounds at birth. He is now a healthy boy of eight, well grown for his age, but slightly underweight. I have a number of grateful patients who have raised babies weighing 3 and 4 pounds. These mothers, however, are a great care when they are pregnant, and, unless they are extremely anxious for children and are willing to co-operate to the fullest extent, should be discouraged. The same may be said of the tuberculous woman. Active tuberculosis is a contra-indication to pregnancy. Arrested cases may be carried to term with the co-operation of an expert in the treatment of tuberculosis. These patients should be spared the strain of labor as much as possible. For this reason, prematurely induced labor is contra-indicated, as more effort is required to dilate a cervix prematurely than at term. The ideal way of handling these patients is to ease their first stage pains with morphine and hyoscine, and, after complete dilatation, terminate labor with forceps under sacral analgesia. Occasionally, however, what was thought to be an arrested case proves to be a progressive one, and it becomes necessary to terminate the pregnancy prematurely. The choice of the best method then requires nice judgment. Induction of labor in multiparae offers little difficulty as a rule. In primiparae section under local anesthesia is to be seriously considered. The desirability of sterilizing the patient may be the deciding factor for the abdominal route.

The treatment of organic heart disease when complicated by pregnancy is a serious undertaking. I am thoroughly in accord with the first part of FitzGibbon's statement when he says "Induction has no place in the treatment during decompensation and at other times would be better replaced by section and sterilization. The problem here is very similar to that in tuberculosis. In any given case the method of delivery and the anesthetic should be chosen with the view of saving the patient as much effort and pain as possible. Kellogg in a paper by Kellogg and Hamilton, believes that ether, carefully given by the drop open method, is the anesthetic of choice. He says that most multiparae and many primiparae are best delivered with forceps at full dilatation.

The few cases of hyperthyroidism and

pregnancy that have come under my care have presented no indication for premature induction of labor, as they have seemed to be better during their pregnancies than at any other time. The management of their labors has presented problems of analgesia, but that is outside the scope of this paper. The single patient with hemoglobinuria of pregnancy, for whom I have cared, has gone through two pregnancies and labors at term without any trouble at all.

Mild cases of purpura are merely interesting incidents in pregnancy. Severe purpura on the other hand is a very dangerous complication, predisposing to fetal death from placental lesions and to uncontrollable postpartum hemorrhages. I doubt if premature induction of labor offers any help in avoiding either of these difficulties.

Methods of inducing labor are outside the scope of my paper. Those who are interested are referred to a symposium on this subject by a great number of teachers in German-speaking Europe in the *Medizinische Klinik* for 1926. Those who are interested in the danger of induction of labor by drugs are referred to articles by Gellhorn, Johnston and Fordyce. A unique method of inducing labor is that by Gauss, who puts the patient on a Zander machine and shakes her up like a milk shake. He reports successful results in 12 out of 15 cases.

*To Summarize:* The induction of premature labor has been from the very beginning a competitor of cesarean section. The relative merits of the two operations have changed with the introduction of asepsis, anesthesia and modern civilization. At the present time each has its limitations and its dangers, the one chiefly on the fetal side, the other chiefly on the maternal side. Induction of labor has no place in markedly contracted pelvis, nor has cesarean section any place in the treatment of toxemias of pregnancy. With the other conditions enumerated the choice of the best procedure will vary according to a number of factors and the relative risk to both mother and child must be carefully weighed in each individual case. Norris characterizes the difference in the two operations as follows: "Excluding mechanical obstacles by pelvis or fetus, the limitations of induced labor are described by that one word, *speed*. The brilliant surgeon is impatient of slow



methods; the obstetrician's training makes him by nature more patient. The training of the latter better qualifies him for a judicial decision and if he has surgical skill and obstetric judgment based upon experience, he will best serve his patient."

## BIBLIOGRAPHY

Bailey, Harold: Trial labor in treatment of 477 cases of contracted pelvis; conducted under one plan of treatment during last four years. *Am. J. Obst. and Gynec.*, 12:550, 1926.

Bainster, J. Bright: Discussion on the place of induction of premature labor in treatment of contracted pelvis. *Brit. M. J.*, 2:519, 1926.

Bill, Arthur H.: The treatment of placenta praevia by prophylactic blood transfusion and cesarean section. *Am. J. Obst. and Gynec.*, 14:523, 1927.

Briggs, Henry: Conservative labour-induction. *Proc. Roy. Soc. Med. (Sect. Obst. and Gynec.)*, 15:84, 1922.

Burgess, H. C.: Hemorrhage in last trimester of pregnancy. *Am. J. Obst. and Gynec.*, 10:49, 1925.

Connan, P., and Owen-Jones, R.: Observations on the indications for the induction of labor. *J. Obst. and Gynec., Brit. Emp.*, 34:83, 1927.

FitzGibbon, G.: Revised conception of antepartum accidental hemorrhage. *J. Obst. and Gynec., Brit. Emp.*, 33:194, 1926.

FitzGibbon, G.: Relation of pregnancy to general diseases I; cardiac diseases in pregnancy and labour. *Brit. M. J.*, 2:253, 1927.

Fordyce, William: Note on case of rupture of uterus following administration pituitrin for induction of labor. *Tr. Edinburgh Obst. Soc.*, pp. 33-42, 1923-24.

Fulleton, W. D.: Premature artificial termination of labor. *Ohio State M. J.*, 23:746, 1927.

Gauss, C. J.: New method of stimulation of uterine contraction. *Zentrbl. f. Gynak.*, 50:13, 1926, Ab. J. A. M. A., 86:660.

Gellhorn, George: Can quinine kill the fetus in utero? *Am. J. Obst. and Gynec.*, 13:779, 1927.

Goldsborough, F. C.: Induction of labor in subnormal pelvis. *New York State J. Med.*, 19:43, 1919.

Gooch, Robert: A practical compendium of mid-

wifery; being the course of lectures on midwifery, and on the diseases of women and infants, delivered at St. Bartholomew's Hospital, 3d American Ed., Philadelphia, Haswell, Barrington and Haswell, pp. 211, 214, 1840.

Ivens, Frances, Cantrell, Hilda, and Reid, J. K.: The induction of premature labour. *Lancet*, 2:493, 1925.

Johnston, Robt. A.: Induction of labor; case reports. *South. M. J.*, 19:215, 1926.

Kellogg, Foster S.: Treatment of placenta previa based on study of 303 consecutive cases at Boston Lying-in Hospital. *Am. J. Obst. and Gynec.*, 11:194, 1926.

Kellogg, Foster S., and Hamilton, Burton E.: Observations on heart disease complicating pregnancy. *Am. J. Obst. and Gynec.*, 13:535, 1927.

Lankford, Burnley: Induction of labor at or near term. *Virginia M. Monthly*, 52:236, 1925.

Montgomery, Thad. L.: The morbidity and mortality of cesarean section. *Am. J. Obst. and Gynec.*, 13:610, 1927.

Norris, Richard C.: The indications and limitations of the induction of labour. *Am. J. Obst.*, 78: 507, 1918.

Phillips, Sir John: The induction of premature labour: Its scope and present results. *Lancet*, 2:741, 1920.

Rushmore, Stephen: Purpura complicating pregnancy. *Am. J. Obst. and Gynec.*, 10:553, 1925.

Spencer, Herbert R.: The FitzPatrick Lectures on the history of British midwifery (1650-1800). *Brit. M. J.*, 2:853, 1927.

Symposium: *Med. Klin.*, 22:610, 686, 721, 802 and 840, 1926.

Thompson, G. W. R.: Induction of premature labor: Its justification. *Lancet*, 2:1123, 1927.

Watson, B. P.: Pituitary extract in induction of labour. *Am. J. Obst. and Gynec.*, 4:603, 1922.

Wehefritz, E.: Chemical changes in human placenta during pregnancy and their relation to problem of commencement of labor. *Arch. f. Gynak.*, 124: 511, 1925, Ab. J. A. M. A., 85:394, 1925.

Williamson, A. C.: Induction of labor by the use of castor oil and quinine. *Surg., Gynec., Obst.*, 34: 812, 1922.

Williamson, Herbert: The induction of premature labor. *J. Obst. and Gynec., Brit. Emp.*, 8:252, 1905, and 9:184, 1906.

## PELLAGRA AMONG CHRONIC ALCOHOLIC ADDICTS

Joseph V. Klauder and N. W. Winkelman, Philadelphia (*Journal A. M. A.*, Feb. 4, 1928), report on a study of 100 cases of pellagra. With few exceptions, all were chronic alcoholic addicts. Of the 100 patients, seventy-one were men and twenty-nine women, ranging in age from 25 to 79 years. The conclusion seems warranted that alcoholism in many instances plays some role, either predisposing or etiologic, in the causation of pellagra. The importance of this role has apparently not been generally recognized. The authors failed to transmit pellagra to a monkey injected with the blood and spinal fluid of patients with pellagra, supplemented by a minimum diet and the ingestion of alcohol. From a pathologic point of view there is apparently an intimate association between alcoholism and pellagra, especially in view of the fact that in other conditions in which alcohol is a factor, e. g., tuberculosis, similar pathologic conditions are absent. It is interesting to note that the pathologic manifestations of

pellagra are not inflammatory, but resemble what is seen in toxic states with known etiology.

## FACTORS DETERMINING LOSS OF STRENGTH OF CATGUT WHEN EMBEDDED IN TISSUE

Edward L. Howes, New Haven, Conn. (*Journal A. M. A.*, Feb. 18, 1928), asserts that surgical catgut in wounds healing by first intention retains its tensile strength to the degree that is customarily expected of it. In the presence of fluids such as physiologic sodium chloride solution, or of blood serum, the tensile strength is moderately diminished. In an inflammatory exudate composed in large part of phagocytic cells, plain or chromicized catgut, practically irrespective of size, loses tensile strength with great rapidity. Great care in handling tissues, strict hemostasis and absolute surgical asepsis are essential in the use of catgut. When infection is foreseen or when the premature loss of tensile strength in the catgut would be disastrous, removable nonabsorbable tension sutures are indicated as an adjunct in the closure of the wound.

## RELATIVE AND ABSOLUTE INDICATIONS FOR THE USE OF FORCEPS\*

BRODIE C. NALLE, M.A., M.D., F.A.C.S.  
Charlotte, N. C.

Our unsavory statistics in obstetrics have prompted this symposium and it is hoped that by presenting and discussing the subject of obstetrics under the various headings, each will contribute some idea which will prove of practical use in improving our mortality rate, which compares so poorly with that of other civilized peoples.

Certainly no specialty in the field of medicine is more important than obstetrics and certainly none is more neglected. Many of the men doing obstetrics detest their work. Many have had little or no real training in obstetrics and do not appreciate the great responsibility which they are assuming. *Consequently the service rendered and the results obtained do not measure up to the standards set in other branches of medicine.* This fact, I think, is particularly true in the operative part of the practice of obstetrics. Physicians without surgical training or skill attempt operations apparently without hesitation, which if in any other field than obstetrics, they would feel and acknowledge themselves incapable of attempting.

The use, over-use, and misuse of forceps certainly contribute their full portion to our bad statistics. So a consideration and discussion of the indications for forceps ought to prove beneficial.

No attempt will be made in this paper to discuss the various varieties of forceps in use, nor the methods or skill in application; but, of course, therein lie great possibilities of influencing our statistics.

Forceps of a most crude form were probably used in Arabia as early as the eleventh century, but to Peter Chamberlen, the Elder, probably belongs the credit of the invention and application of the first real forceps. Since his time forceps have been in more or less general use, and with the vast improvements, have now established themselves as a neces-

sary and useful part of the armamentarium of every obstetrician, have proven their relative and absolute indications, and have also proven the fact that their dangers are many and grave. It remains then for us to definitely decide upon the indications for forceps, to determine whether they are real or imaginary, whether our decision of indications for forceps is based on sound judgment, experience and training, or on considerations other than the good of the mother and child. The good of mother and child is not served when our decision is influenced by lack of training and experience, by the matter of convenience or haste of the physician, or by pressure brought to bear by the family, patient or friends.

Samuel Bard, in his "Compendium on the Theory and Practice of Midwifery," written in 1819, said, "*The difficulty of using any instrument is much less than that of determining on the propriety of its application.*"

A careful consideration of the propriety of application of forceps will prove a great boon to the practice of obstetrics, and will allow our forceps to approach in usefulness and safety the obstetrical forceps as defined by DeLee, who says, "The forceps of obstetrics is an instrument designed to extract the fetus by the head from the maternal passages, without injury to the fetus or to the mother. As soon as the right of either has been encroached upon, the instrument ceases to be the forceps of obstetrics, and becomes only an instrument of extraction similar to craniotomy forceps and not so good." This definition of obstetrical forceps should make us realize how far short the average forceps falls, and we might wonder if there are many real obstetrical forceps in use.

*Conditions which should be present before the consideration of the application of forceps are:*

First—The child should be living and viable, unless it is apparent that the dead child can be easily delivered with forceps.

Second—The cervix should be fully dilated or easily dilatable.

\*Read as part of the Symposium on The Reduction of Maternal Mortality held by the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th and 15th.

Third—The membranes should be ruptured and retracted above the head; failure in this might result in the grasping and premature detachment of the placenta.

Fourth—The relative size of the mother's pelvis and the child's head should be such as to permit a safe delivery, this to be determined by whether the child's head has engaged in the pelvis or whether it can be made to engage by pressure from above. There should be no bony nor other obstructions, such as tumors and so forth, in the pelvic canal.

Fifth—The position of the head should be favorable. This can generally be effected bimanually, but not always.

With these conditions present, the question of indications for forceps can be considered.

Edgar says, "Forceps are indicated whenever labor is to be quickly terminated, whenever the life of the mother or child is in peril, provided contra-indications are not present." This covers admirably the field of indications, but what an opportunity it affords for the display and exercise of bad as well as of good judgment! It supposes the ability of weighing of all indications and contra-indications and the making of a wise decision.

It is generally conceded that forceps are indicated in any condition which threatens the life of mother or child. Maternal indications as generally accepted are sudden heart failure; hemorrhage from premature separation of the placenta; eclampsia (previously included, but it is now generally agreed and statistics show that forcible and forceps deliveries should not be effected in eclampsia cases, and that the mortality rate has been cut in half by conservative deliveries); physical and nervous exhaustion of the mother with the loss of power of expulsion; rigid perineum with no progress within two hours; when the mother is suffering with any acute infectious disease; diseases of the respiratory tract; diseases of the heart in which it is necessary to save the mother the violent strain of the second stage of labor.

Indications on part of the child are prolapse of the cord; premature separation of the placenta; ominous changes in the fetal pulse, below 100 or over 160; appearance of meconium in vertex presentations.

Forceps are definitely contra-indicated in

contracted pelves, when the fetus is premature or macerated; also when size of the child's head is out of proportion to the mother's measurements.

*These then are the generally accepted conditions, indications and contra-indications for the use of forceps. It has been under the guidance of these that we have made our disgraceful records; not that the list of indications has been entirely to blame, but the judgment exercised in deciding upon these indications has probably been bad and the technique of the obstetrician has been worse.*

How then are we to improve our statistics from the standpoint of forceps? It seems to me the solution lies in the possibility of reducing the number of indications for forceps and in adding to our list of contra-indications, and the improvement in the judgment, experience, and training of the man applying the forceps.

DeLee says, "Seventy-five per cent of the forceps used in America are used after the head is on the perineum or showing at the vulva." The indication for forceps in the majority of this 75 per cent is from exhaustion of the mother with loss of power of expulsion. We can diminish greatly this number of cases of exhaustion, and thereby the use of forceps, by careful, intelligent prenatal care, thereby bringing the mother to the severe physical and mental strain of labor physically fit, by seeing to it that she is not suffering from a severe anemia or kidney toxemia, obesity or any preventable condition which would impair her physical strength, any more than we would send an athlete into a contest unconditioned and handicapped and expect him to come through successfully. Secondly, by not allowing our patient to exhaust her strength unnecessarily and without results upon an occiput posterior, or any other abnormal presentation. By examination and by manipulation she should be given the benefit of a favorable presentation.

When we have given her the advantage of good physical condition and a favorable presentation and know that her measurements as compared with those of the baby are at least favorable, we can further conserve her physical and mental energy and prevent this indication for forceps by the wise administration in the first and second stages of labor of sedatives, opiates, ether or chloroform in-



halations; and, especially in the second stage, in case of rigid small vagina, by episiotomy, ether-oil-quinine-anesthesia, by ironing out the vagina and by wise and careful administration of pituitrin, which although it has its dangers, I think less dangerous than the application of forceps, especially in the hands of an unskilled obstetrician.

I am confident these measures will enormously reduce the indications, both real and supposed, for the use of forceps. Eclampsia, which in the great majority of cases could be prevented, should be taken from our list of indications for forceps and added—along with the unskilled, surgically untrained physician—to the list of contra-indications.

Sepsis, which claims forty per cent of such patients, could be greatly reduced, by improved surgical technique and training of the physician and by diminishing the number of forceps applications, for the application of forceps necessarily adds to the chances of infection and danger even though applied under the best conditions and by the most experienced obstetrician.

The application of forceps is a surgical operation and should be so considered and not attempted under unfavorable conditions and by untrained hands. Our statistics for the complications of pregnancy show improve-

ment except in sepsis and operative obstetrics, so our increase in mortality must be due to these two causes.

*Other countries whose statistics are better than ours show less operative obstetrics and less sepsis.*

The Scandinavian countries show a 4 per cent operative obstetrics against our 10 to 30 per cent.

Statistics from the Ford Hospital show that in a thousand consecutive cases forceps were rarely used, and rarely needed.

#### SUMMARY

Better prenatal care, better conservation of mother's strength during labor, better trained obstetricians would result in fewer indications for forceps and consequently less sepsis, hemorrhage and shock and better results. This condition of things can be brought to pass by the demand from the public for better obstetrics, by the improvement in the obstetrical curriculum in our medical schools, and by an increase in the respect paid to the dignity of the obstetrician.

#### BIBLIOGRAPHY

- DeLee: "Principles and Practice of Obstetrics."  
Williams: "Obstetrics."  
Cornell, Edward L.: "Forceps Delivery." J. Surg., Gynec. and Obs.  
Bloss, J. R.: "Some Indications for the Use of Forceps." W. Va. M. J.

## RELATIVE AND ABSOLUTE INDICATIONS FOR CESAREAN SECTION\*

OREN MOORE, M.D., F.A.C.S.  
Charlotte, N. C.

The operation of laparo-hysterotomy with the other surgical procedures designed to remove a child through an incision in the abdominal and uterine walls, has by common usage come to be known as cesarean section. Any discussion of such operation, particularly the indications for its use, will almost necessarily have to include a short historical sketch, because the original indication, so far as history records, was the post mortem removal of the baby, and was probably de-

signed primarily, not to save the life of either mother or child, but to provide means of separate burial for the two. Cesarean section, in all likelihood, received its name from this fact; the Emperor Numa Pompilius in codifying the Roman laws provided the legal sanction for this procedure and with this end in view, and through usage that law became "Lex Caesaris," or Law of Caesar, and children so removed became Caesarian children and the operation caesarian operation. Many writers deny that the Emperor Julius Caesar made his august advent in this spectacular fashion, offering as evidence that the operation was well known centuries before his

\*Read as part of the Symposium on The Reduction of Maternal Mortality held by the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th and 15th.



birth. Further, that Roman records show many letters written to his mother during his adult life which would, if true, effectually prove that she was not dead and he "untimely ripped from her womb" after her death.

Another plausible explanation of the origin of the name is the one sponsored by DeLee, which is, that the term derived from the Latin verb *caedere*—to cut, and therefore implies delivery means of cutting. He relates one of the early authentic and successful operations by this method as having been performed by a this method as having been performed by a Swedish swine gelder named Jacob Nufer in the year 1500 upon his own wife after a dozen midwives and several barbers had failed to deliver her. The indication in this instance was, in all probability, an extrauterine pregnancy, since the patient recovered and later delivered five normal children, *per vias naturales*.

Dr. Franklin S. Newell has expressed the expert's opinion upon the wide divergence from this old and primary indication to the present day (at least in some quarters) interpretation of what constitute sufficient grounds for the operation: "The increased success which has attended the performance of cesarean section as an operation of election instead of an operation of last resort, has led to its employment in many cases, to the exclusion of methods of delivery better suited to the needs of the patient, until at the present time it is the most abused obstetric operation, being performed by comparatively untrained surgeons upon patients who present no real indication for it, under conditions which render it an exceedingly dangerous procedure. It is not at all unusual to see patients who have been subjected to cesarean section for no apparent reason as far as physical examination shows, and the only logical conclusion is that the indication has been a slow, though normal labor, which the attendant has hastened to end by the means easiest to himself, though often not best for the patient."

Continuing this discussion, we come to the catalogue of conditions which undoubtedly prevent the delivery of the baby in normal manner with consequent danger of death to either mother or baby or both, and designate them as absolute indications. The first group are abnormalities of the pelvis and are de-

tailed as follows:

Contracted pelvis, where the true conjugate measures five cm. or less, and in the opinion of many, even seven cm. should be so classed.

Generally contracted pelvis.

Kyphotic pelvis.

Funnel pelvis.

Obliquely contracted (Naegle) pelvis.

Transversely contracted (Robert) pelvis.

Pelvis of osteomalacia.

Atypical pelvic deformities, such as exostoses, tumors of the wall (enchondromata, osteomata, fibromata, carcinomata, oseocarcinomata). Before the general use of cesarean section in these cases, fifty per cent of the mothers and eighty-nine per cent of the children are said to have perished.

Old pelvic fractures, with healing deformities.

The next general group come under the head of absolute indications, aside from abnormalities of the pelvic girdle. Such are:

Congenital obstructions of the vagina or cervix.

Old operative stenoses.

Tumors of pelvic organs. These may arise from the spleen, liver, kidney, rectum, bladder or intestines, and may be dermoids, fibromata, osteomata, calculi, cysts, or malignancies, and may be of such size and position that they prevent the engagement in the superior strait of the presenting part.

Operations for malposition, notably ventral suspensions and ventral fixations.

Herniation of the uterus, and especially ventral herniae which include the uterus as a unit of their content and most especially when the gravid uterus becomes incarcerated. (One of the earliest successful cesarean sections was done on a case of this type.)

We next come to discussion of relative indications for laparo-hysterotomy, and here we find ourselves upon somewhat dangerous ground; for while the absolute indications are generally well known, usually easily recognized, certainly so if the patient has had thorough study that every pregnant woman deserves, and are consequently indisputable, the relative indications are not so well understood, are under dispute, and may be absolute indications under certain conditions and absolute contra-indications under others. For instance, when the physician who has the final decision in a complicated obstetrical

case, and when he alone must assume full responsibility for the outcome, finds himself to be a much more skillful surgeon than he is an obstetrician—then relative indications become absolute. On the other hand, should the case be referred for final disposition to a competent accoucher, all indications for section may disappear and obstetrical art save the day. For purpose of discussion, we present the following list under the head of relative indications:

Previous cesarean sections and uteri on which myomectomies have been done. (Williams' study of the rupture rate in these cases shows a two to three per cent, all of which have not proven fatal. Further, laboratory study of scar tissue from these uteri have proven it to be strong and sturdy in the majority of cases.)

Toxemias and eclampsias.

Contractions of the Outlet.—Transverse diameter of seven cm. or less has been claimed to be an absolute indication, but this is not always true, as the bi-ischial is not as important as the posterior sagittal, for while a contracted transverse diameter gives an acute pubic arch and angle thereby forcing the presenting part more posteriorly, delivery will be possible, if the distance between the ischial tuberosities and the tip of the sacrum are competent.

Elderly primipara.

Heart disease.

Monsters and malformations of the fetus.

Placenta previas.

Abruptio placenta or premature separation.

Malposition of the fetus, such as: transverse and face presentations.

To prevent damage done to previous operative work, such as: repair of the pelvic floor and plastic surgery of the birth canal.

Abdominal abortion for therapeutic reasons, such as: pernicious vomiting, active tuberculosis, etc.

Post mortem cesarean to save the life of a child. This was originally the absolute indication and to my mind is still so classed, although others prefer to group it under the

head of relative indications.

To this rather extensive list I am inclined to add that great group of border line cases in which the careful observer will frequently find reasons to believe that labor will be prolonged and difficult and that in consequence intracranial damage to the fetus is strongly probable. I realize that taking this position may lay me open to criticism; but a few experiences in following up with the pediatrician the solemn sequelae of intracranial birth hemorrhages has done much to convince me of the wisdom of cesarean in this class of cases.

In conclusion, it is only fair to say that, while cesarean has become a far too frequent operation on account of its easy technique and spectacular appeal, criticism of a given operation must be reserved until all the facts are known. It may be that in any given case circumstances of environment, skill and knowledge of the attendant, especial conditions of the patient, and a dozen other factors have conspired to convert an indication for forceps delivery into indication for cesarean either relative or absolute, and that an indication which is only relative in my classification may suddenly, because of adverse circumstances, become acutely absolute in yours. Further, in determining whether a cesarean is indicated, one must be guided by the type of operation contemplated, for the extra-peritoneal operation of Davis or the low cervical operation of DeLee have fortunately changed absolute contraindication into favorable terminations.

I cannot end without stating that in my opinion, the fad which has been fostered by certain valetudinarians in the profession and fed from the group of society women of delivering by section simply to avoid the discomforts of normal labor is nothing short of prostitution of a splendid surgical and obstetrical procedure to unworthy ends. Nor is the hazard of cesarean section to be lightly regarded, for under most favorable conditions, disaster may follow and valuable lives be lost.



## More Essays On "HOW THE FAMILY DOCTOR CAN INCREASE HIS USEFULNESS AND HIS INCOME"

Submitted for improvement of the Status of the Family Doctor—Stimulated by prizes  
offered through Southern Medicine and Surgery

DR. V. K. HART, Statesville, N. C.

Remarks on the above subject by one not doing general practice may be treated with some skepticism by that honored and indispensable gentleman, the "family doctor." This excuse is offered for the author. Six continuous years of institutional service, in both large and small hospitals, have given him the pleasure of meeting a large number of general practitioners under widely different circumstances. In the large city, in the small town, in the country.

Such acquaintanceship is deemed invaluable. It is broadening and instructive. Perhaps to some small degree benefit absorbed from these worthy men may be reciprocated by that which follows. So much for preface.

An intelligent discussion demands a fundamental hypothesis, i. e., a working formula. Let it be assumed, then, that doctors are honest but tactful; kindly but firm in the best interests of their patients; gentlemen always, despite sporadic but very excusable and timely profanity; that they all harbor a mellow sympathy, tempered occasionally with righteous indignation. (Now every reader feels better.) Certainly, however, the above are immutable for success scientific or pecuniary. Furthermore, if a man increase his usefulness he automatically does his income. Discussion then may be limited to the former.

With a hypothesis, a method of reasoning must next be chosen. Undoubtedly that serving best here is induction, viz., that which is observed to be true of a number of useful doctors is assumed to be true of all useful physicians.

Professional success is tantamount to thoroughness. This applies to all doctors, specialists or not. Many a diagnosis has been overlooked simply because the patient wasn't examined from head to feet. It does not take a neurologist to see whether or not the pupils react to light, whether the patella re-

fleves are present or absent, and whether or not a Romberg is present. It doesn't necessitate a laryngologist to observe large diseased tonsils or adenopathy of the neck. It doesn't require a tuberculosis specialist to note obvious pathology in a chest. No surgeon is needed to demonstrate palpable masses in an abdomen, typical appendiceal or ureteral pain. No dermatologist is needed to note the presence or absence of a skin lesion. No orthopedist is needed to decide between a flat foot and a good arch. It doesn't take a genito-urinary man to note a urethral discharge or a tender prostate. No gynecologist is needed to observe gross pelvic abnormalities.

Indeed any one or all of the above useful men may be necessary to establish definitely a particular diagnosis. The help of any one may be needed therapeutically. However, in a case of obscure etiology, the family doctor's notes should include notes on all the above. Records are of the utmost importance not only on the original examination but on each additional visit. (Accurate records mean correct statements at the end of the month. These should be rendered monthly in itemized form. This necessitates a good filing and bookkeeping system.) Thoroughness as a matter of routine means marked success in contradistinction to mediocre success. The general practitioner may always well take time to do such an examination even if it is claimed that he has no time for laboratory work.

Which brings up another most important question. If one is really to be thorough a certain amount of laboratory work is essential. For the city doctor, these facilities are easily accessible. All he must do is send the patient to a standard laboratory and specify the work desired. Neglect of this phase for him is inexcusable.

With the doctor in the country the prob-

lem is quite different. He has, God bless him, long trips and hours. Nevertheless he can arrange for essential work.

First, it is an easy thing to carry vacuum tubes and needles in one's bag for the collection of blood for wassermann or kahn reactions. It is an easy thing to leave a patient a receptacle and tell him how to collect a specimen of sputum. It is not difficult to collect specimens of urine or feces. If the doctor has not facilities for examining these himself there are usually available laboratories at no great distance.

Most country doctors examine a urine for sugar and albumin. Very few make a microscopic examination. This is a mistake. Many cases of nephritis begin with a few casts and no albumin. Moreover, the cellular contents as in a case of possible pyelitis or cystitis are important. This examination can be done quickly.

It is true that it requires some equipment such as a centrifuge and a microscope. Very easy to put in also a few stains for slides of blood, bacteriologic examination of a film of urethral discharge, prostatic contents, or sputum. He may easily do a blood count. None of these things take more than 10 to 15 minutes' time. If he has forgotten the technique he can perfect it again with a little application and instruction. When one considers that we teach nurses every year to do routine laboratory work, it becomes plain that this is true.

When patients realize that good work is being done for them—good and essential—they are perfectly willing to pay an additional charge. It is a matter of education of his clientele.

More complicated blood chemistry must be done in a standard laboratory. This work includes syphilitic reactions, blood urea, blood creatinine, plasma  $C^{2}$ , blood sugar, etc. It has been a most difficult thing to educate even our town doctors to the necessity of these tests in selected cases. For instance, in routine institutional work every year cases are seen who have diabetes, but no sugar in the urine (high blood sugar on sugar tolerance test). This is due to high kidney threshold. Conversely a few cases are seen with sugar in the urine and no diabetes as shown by blood sugar findings. This happens in a low kidney threshold or alimentary

glycosuria.

Specimens of sputum, etc., can be done with small cost at his office and the returns will certainly justify the investment. Patients who can pay for laboratory work should be made to do so. Moreover, by having a small laboratory in connection with his office, people will be more apt to come to him. He can use it as an excuse for demanding that they come, and a legitimate excuse. Of course, this applies to only ambulatory cases. Patients bedfast he must see at their homes. However, there is no reason why the country doctor should not have office hours as well as the city doctor. Simply a matter of education of his patients.

To review briefly from a laboratory standpoint. Any doctor at small expense can be prepared to examine a specimen of urine for pus cells or casts, stain a film of sputum for tuberculosis, examine a smear of feces for ova of intestinal parasites and inspect a stained blood film for malarial or abnormal cell contents. Stained slides of a throat may quickly reveal a Vincent's angina; sometimes even a diphtheria. Similarly the character of any discharge may be quickly determined if necessary.

On the other hand more complicated studies may be desired. Is a goiter toxic? He wants then a basal metabolism. Is there a true diabetes? He wants then a blood sugar study. Is there a kidney impairment along with a hypertension? He wants then a blood study of urea nitrogen and possibly a phenolsulphonaphthalein functional test. Is there a tuberculous meningitis? He wants then a study of the spinal fluid. (Every doctor should be able and prepared to do a spinal puncture for diagnostic reasons and therapeutic results in certain cases of concussion and non-operative skull fractures.)

All the above, together with blood for wassermann, widal and cultures (last two properly collected, of course) must be sent to a standard laboratory. The doctor should use his own judgment as to when any one or more are indicated.

Elaborate discussion is not pertinent. Suffice it is to say it is the easiest thing in the world to learn the normal for any laboratory determination and interpret the result accordingly. More rational treatment will result. The doctor is going to impress his



patient—not lose him.

So much for thoroughness. It is akin to observation. A few words as to general medicine.

Progress in the same means constant reading. The doctor doing general medicine should surround himself with the best medical journals and books. It is embarrassing to have a patient ask you about some new therapy about which he has heard and not be able to explain the same to him. Moreover, he should take the initiative in putting into effect new and proven means of therapy. He should always be ready to give his patient intelligent advice about general medicine and surgery. By the same he commands the respect of his patients and their confidence. Such, of course, is bound to increase his practice.

Particularly should he be able to answer questions concerning common biological products. He should be willing to explain in simple English the difference between typhoid vaccine and diphtheria antitoxin. He should be familiar with the manner of making and particulars of therapeutic application of the newer sera such as those for treatment of scarlet fever and erysipelas. He should explain the importance of tetanus antitoxin following gun-shot wounds and perforating wounds by dirty nails. He should insist on proper smallpox vaccination, not only insist, but be ready to explain why it is important. People are demanding more and more that these things be elucidated. Too long has the profession stood behind a dignified wall of reserve—assumed a “holier than thou” attitude. A sad commentary if this “wall” be a defense of ignorance. Indeed, a doctor should be ready and willing to talk on these matters intelligently at any time. Preventive medicine is a big field today.

One last thought. A very valuable habit for a doctor to form is the “follow through” habit. Never lose sight of a patient with an obscure diagnosis. If he comes under the

care of another doctor, whether referred or not, write and get the colleague's opinion and findings. Follow the patient to the port of diagnosis even if it be Alaska.

Real genius is actually most unusual. Medical success in the vast majority of cases reflects endless work, reading and observation. There isn't any other way to obtain it.

Really there isn't any more to be said. If a doctor follows the above his success is as sure as that of daylight tomorrow. Success, of course, means usefulness. With usefulness comes increased income.

Indeed much of the above applies to the specialist as well as the general practitioner. There is today a woeful tendency to over-specialization. Never should a specialist lose sight of general medicine. Conversely a general practitioner should know fundamentals of the specialties.

Some years ago this quotation was seen. The writer does not remember the author. It follows: “May the love of my art actuate me at all times. May neither avarice, nor greed, nor the thirst for glory engage my mind; for the enemies of truth and philosophy could easily deceive me and make me forgetful of my lofty aim of doing good for Thy children.”

A creed well for all of us to follow. In its wake, even with no great knowledge, usefulness will follow.

At any rate all hail to these doctors of general medicine. They give long, trying hours under difficult circumstances. Uncomplainingly they give relief from pain and give solace to anxious ones. Patiently do they aid the trying hours of childbirth. Unostentatiously do they help racked bodies into the world to come. Anywhere at any time they smilingly serve the family. Many times they receive all too little credit to say nothing of insufficient income. Much is demanded of them and little attention paid to them. Surely Allah will remember!



DR. A. L. DENCHFIELD, Asheville, N. C.

The usefulness of the family physician is governed by his field of service, which is, because of the nature of his practice, limited. However, his usefulness in this limited field of practice may be intensely cultivated. There are two elements therefore which enter into increasing his ability to serve: first, he should have an increase of individuals to serve; second, an increase of service to each individual. His income will naturally increase according to the rate of increase of his services.

To bring about an increase in his field of service it may be proper to resort to ethical group advertising. If done in the right way it counteracts many influences tending to withdraw practice from our profession. Personal conversation with whomever we are brought in contact should serve to spread information concerning the advantages modern medicine has to offer. The layman is quite frequently interested in medical topics as a theme of conversation and a little frequently repeated course of personal education if backed by sufficient knowledge and tact may influence the public in the right direction.

Too many opportunities for usefulness are lost by not being available for service when needed. The physician who is on duty always will serve the most. Through the help of a capable office assistant who would take the incoming messages while he is on the road, and the physician's exchange who will help him at other odd times, he should seldom miss an opportunity for service. In this connection, a physician should keep his engagements promptly whenever possible.

An educational leaflet describing the advantages of preventive medicine, emphasizing periodic health examinations and specific protective injections may be printed and inserted for distribution in each letter or statement mailed and will be sure to reach the persons in whom the family physician is most interested.

If with all these endeavors more individuals are brought into contact professionally with the physician it devolves on him to render them the greatest amount of service possible. To do this the physician must acquire greater skill and knowledge than he now exhibits or his public will become disappoint-

ed in him and his profession. Spend your time on your text books instead of on the bulky, cheap, flashy magazines. Learn thoroughly your differential diagnosis and your modern therapeutics. Provide yourself with the best instruments for diagnosis and treatment and learn assiduously how to use them. Take and record accurate histories and results of examinations and your patient will be impressed with your carefulness and thoroughness. Once you have gained the confidence of your patient do not lose it by neglect and lack of interest.

If one would combat successfully the cults, grapple them in their own arena by mastering and learning the diagnosis and treatment of the affections that make up the bulk of their practice, and our own profession will retain this business that rightfully belongs to us. For example, learn the technic for the radical operation for ingrown toe nail and you will take from the chiropodist; remove aenes, obesities, hair and scalp diseases and the beauty specialists suffer; learn better your arthritides and neuralgia pains and the bone gesticulators are the losers.

The greatest field of all, however, in which to increase our usefulness is that of preventive medicine. Ordinary clinical practice is fairly well absorbed and taken care of but the newer field is not yet developed. It is the duty of the medical profession to develop, exploit and get control of it before it passes into the hands of alien interests which it is otherwise bound to do. Unless, however, the individual practitioner has learned to do these examinations properly, honestly and accurately he had better not undertake them.

Now assuming that we have developed a model physician, with a greater clientele, what are the rewards for his industry and foresight? He should value his services more and the public will value his services more, for his skill and dependability are desirable commodities. If better services are given the dear public will be glad to pay better fees. If you offer the community a choice between a cheap doctor and the kind we have wished to develop which do you suppose will be chosen? The next step is better collections. Do you recall the doctor who removed from

the walls of his office all his diplomas, college pictures and photographs of his revered professors and in their place hung one simple framed notice, "Office Visits Cash?" Collecting while the debt is fresh is common sense. Do not be afraid to talk about your remuneration and have the fees definitely understood and arranged for. Some may take umbrage at it but tact will win and the undesirables will be weeded out. Send out bills regularly. Investigate transients and unsettled patients or you may have too many bills returned to you from the dead letter office. A doctor who is a good business man has little need of a commercial collecting agency. With the aid of his office girl, and occasionally a good lawyer, he should make a successful round up of the financial slackers. Incidentally, use good sound business sense—do not indorse other's notes, do not cash strangers' checks, do not go on anybody's bond unless you are willing to stand the consequences. Pay your bills and accounts

promptly, for with credit comes respect.

The next step is your insurance. It safeguards the capital invested in your abilities and their future earnings: health and accident insurance for the present and life insurance for the future. Take all you can conveniently carry. Automobile liability is a necessity, and malpractice insurance comes in handy, too.

Now that you have earned it, collected it, safeguarded it, what will you do with the surplus, if any, for which you have worked so hard. If you are an ordinary man, be content with ordinary but safe dividends. If you have keen business sense you may venture further. Consult your banker as freely as you would wish him to consult you. In conclusion, twelve words sum up this article:

More will; more skill;  
Less ill; less kill;  
Bigger bill; fuller till.

---

DR. R. H. ROWE, Exeter, Va.

The warp and woof of the healing art is entwined around and within the sphere of the family doctor's service. To him belongs the duty of portraying to the world a conception of the meaning of the word, *Doctor*. To him belongs the honor of holding intact the various organizations which promote the advancement of medicine as an art and as a science. And it cannot be said that he has ever shirked this duty or unworthily worn the honor.

It is therefore fitting that so necessary a laborer in the vineyard of humanity should be liberally rewarded, so that his good work shall continue to expand. At present, the inadequacy of the family doctor's income is proverbial. The laity silently ignore his material needs, placing him on some mystic plane where neither food nor raiment is necessary to his comfort and where even the good wife and children are supposed to subsist upon the aura of immateriality which emanates from his presence.

It is to be assumed that the usefulness and income of every physician will be augmented

by cultivating the basic virtues—character, courage, efficiency and charity; and so assiduously as a rule does the life of the average family doctor exemplify these attributes that it is only when one is lacking that any conspicuous attention is directed thereto. Day by day, the general practitioner rises to the emergencies of the occasion and becomes master of trying situations. The courage here shown becomes sadly lacking when pay-day comes. A more positive attitude as to the necessity of receiving a fee commensurate with the character of the service rendered would bring increased returns and, further, tend to remove the idea of cheapness from the family doctor's work. The doctor, himself, should feel and show more self-esteem and pride. He who is not pleased with himself cannot please others. At many times it becomes necessary to eschew the role of the shrinking violet in favor of the flowering acacia. Nor should the family doctor, when at the solicitation of anxious relatives he needs must meet the consultant from the city, quail and quake lest some detail of diagnosis

or treatment meet a disapproving eye; rather, he should feel that the patient is safe in his own hands because of his personal knowledge of the patient and the course of his illness. No true mariner should permit any chance wind, however gusty, to long divert his vessel from the charted course.

However, the closest attention to personal efficiency in practice and the most positive attitude in regard to fees will not in many instances suffice, in which event it becomes necessary for the family doctor to enlarge the scope of his work so that a greater clientele will be attracted; and I would suggest that he enter in a limited way into the practice of one of the various specialties—in addition to selective family practice.

It is a well known fact that a large percentage of the work and income of specialists is derived from routine tests, examinations and local treatments, so-called, which the family doctor could also make if provided with suitable equipment. A room, somewhat separated from the general office, should be provided where all of the instruments pertaining to the work would be at the doctor's finger tips. A competent nurse should be engaged to assist with the work and her services would be advantageous in meeting the emergencies of the general, family practice and as laboratory or x-ray technician. A special course preparatory to entering this new line of work would be desirable, but is not a *sine qua non to success*. Each of us can recall from our acquaintance the history of a specialist who began in a small way, doing "first things first" and day by day adding new ideas and methods to his technic until in the course of time his position as an outstanding specialist was assured. But the plan suggested for the family doctor does not contemplate competition along this line since there is and always will be an unassail-

able niche cut out for those endowed by nature and training to make intricate tests and to cope with major operative contingencies. But if properly equipped the family doctor could make the usual run of special tests and render effective local treatments. The efficacy and safety of local anesthesia have widened the field of potential office work.

There should be an agreement, rather a tacit understanding, that no conflict should arise by any two family doctors entering the same limited field; but it would be feasible for them to unite in the use of the x-ray and possibly, laboratory—jointly engaging a competent technician. With this at the disposal of the family doctor a conscientious "health" examination could be made—an impossibility at present in small communities. The laboratory would provide the civic authorities with an agency necessary in the field of hygiene and preventive medicine.

Under the plan proposed where several doctors in the community conform thereto, some one would be competent to recognize the more serious diseases in their incipency, as cancer. It is often due to the family doctor's lack of equipment for making a thorough examination of some special organ or system of the body and sometimes to his complacent and fair-weather attitude that many mortal diseases are unrecognized until past the operative stage. The correct state of mind—fortified by special equipment along some one line—would inevitably tend toward better results for the public and a more lucrative income for the physician.

The family doctor's name has long been written in kindness, love and mercy on the hearts of those with whom he comes in contact, but he cannot attain the summit of personal happiness nor public service until freed from the bonds of a blighting poverty.





DR. CHARLES S. WEBB, Bowling Green, Va.

The family doctor is fast becoming a thing of the past. Time was when he was held as a true and trusted friend, supposed to be the repository of all wisdom in matters pertaining to health, a confidential adviser in all family troubles, a safety vault in which to store all family secrets. He may not have made much money, but his life was useful and he had a large measure of content and happiness. Now all this is gradually undergoing a tremendous change. One reason for the change is that there are so many specialists now. Now it must be said that specialists are very desirable and very useful. Progress has been so rapid in medicine and surgery that it is impossible for any one man to be competent in all its branches. Specialists have always been with us, for instance, in the major operations in surgery, in treatment of the eye, and so on. But there is danger of carrying the idea too far. Here is a man who goes to have his tonsils examined. The tonsil man sends him to a heart specialist to see if his heart is in condition to stand the anesthetic; the heart specialist is not sure and sends him to a specialist in endocrine therapy, who thinks he has thyroid trouble and sends him home with some tablets or capsules of which he takes a dose three times a day with instructions to report after a certain time to see "how he is getting along." All these specialists have to be paid, of course.

Another thing which has taken a great deal away from the family doctor is the increasing number of hospitals. The tendency of the times is to get every sick man to a hospital. The city doctors always advise it, and in the country the people have a sort of an idea that anything can be done and any one can be cured at a hospital, so the case goes out of the care of the family doctor. If a man dies outside a hospital under the home treatment of the family doctor, the family and all his friends will be apt to think that he might have been saved if he had only been sent away in time. And all of this makes against the home doctor and gives him a black eye.

Another thing that operates against the doctor's income is the prevalence of free clinics. The growing tendency in this direction

threatens very seriously the income of the doctor, who must make a living by his profession. In the cities, especially where there are medical colleges, almost anybody can get the services of competent physicians without paying a cent. And travel is so easy now in automobiles that people who live in the country can, and many of them do, avail themselves of the same privilege. We might as well look the facts in the face.

Let us now see if we can find out how the family doctor can regain some of his lost prestige. The question before us is "how can he increase his usefulness and his income"? These two—usefulness and income—do not always go together, for some of the most useful physicians the world has ever known had very small incomes, because they gave so much of their time to the very poor, to whom they never sent a bill. Men like this are the salt of the earth and will surely receive the plaudit, "I was sick and ye visited me."

But whether there is much income or not, it is the duty of every practitioner of medicine to give the very best that is in him to every patient he treats.

Here are a few suggestions:

(1) He must be the same worthy gentleman he has always been, with the same kind heart and genial greeting for all. As a matter of fact, more people employ a physician because they like him than because of his great professional ability.

yond question. It will never do for anybody to consider him a "back number," and if he is past middle life they will be very apt to

(2) His professional ability must be besay that anyhow unless observation convinces them to the contrary. You know how people will advise each other, "you better get Dr. Blank because he is fresh from the books."

(3) He ought to subscribe to and read some first-class medical journals, and give attention to the abundance of literature that comes to his office, much of it worthless, it is true, but he may get acquainted with many pharmaceutical preparations which have not yet been adopted into the *materia medica*.

(4) He ought to be able to use the stethoscope and blood pressure apparatus accurately, and other means of diagnosis known

to the modern practitioner, including the microscope, and if he can afford it, the x-ray machine. If he can equip his office for the use of diathermy, ultra-violet, and other modern electrical treatment, it will add many a dollar to his treasury that he would not otherwise get, and will also increase his reputation.

(5) He ought to attend the meetings of his local and state medical societies, read a paper occasionally and enter into the discussions. No better way to whet the mental edge than these meetings with his professional brethren. If a doctor stands well with the best informed of his profession his reputation will be safe at home.

(6) He must know his limitations. He must be honest with himself and true to his

patients. If he cannot do justice to the case let him call for help, either at home or at the hospital. He will have plenty of opportunity for the exercise of wise judgment.

(7) How to increase his income? If he is thoroughly competent and reliable, as outlined above, then the matter of income is a business proposition. He ought to be a good collector, but careful not to offend. A doctor has the best opportunity in the world to see human nature in all its varied forms. If he can get the money that is justly due him without making a lot of enemies, then he is entitled to rank as a man of wonderful tact. No iron clad rule can be laid down, but some system ought to be adopted and let the people know what to expect.

---

DR. J. G. DAVIS, Roanoke, Va.

The physician is no exception to the rule that life is for doing good and being useful, and securing an income for his support. To some will be vouchsafed the estimable privilege of building a great monument of goodly deeds and wise counsels. To others, whose code of ethics may be blurred with character badly splotted, money may be their reward. But the ideal physician walks with his fellowmen, a friend in triumph or disaster, with head erect and a pure and honest heart, ever seeking to cure and prevent sickness and aid the unfortunates, and wishing only for success and a fair income for his labor and responsibilities.

To increase his usefulness, which should be his first choice, he must often destroy the source of income, for it is in the field of preventive medicine his great work lies. If he could induce every family to take the established preventive methods for smallpox, diphtheria, typhoid fever and other diseases, and prompt antiseptic methods for all wounds, this, alone, would abolish much of the work of the family physician.

He should be always an outstanding model for sobriety, honesty, clean living, kindly, considerate and courteous treatment for all. He should, pre-eminently, be a teacher, to lead people away from fakes, nostrums, fads and fancies. He has the opportunity, and should take the time to instruct his families in the fundamentals of sickness and health—

give a plain reason why many advertised treatments cannot cure, and teach them that our bodies are but the soil in which germs grow producing their crop—disease. This life of instruction calls for patience, perseverance and ability. If all physicians could be impressed with this duty great and wonderful good can be accomplished. We are the teachers and the world is our school. The accumulated knowledge of the centuries of medical facts should be more universally diffused, for we find the educated man, as well as the untutored, frequently palpably ignorant of the sound principles of health and easily deceived by the charlatan.

The physician should be well informed on many subjects, for his field of usefulness widens as grows his popularity and ability to lead and advise on the variety of the problems of business and family life and the intimate secrets that promote or destroy happiness. "Be ye therefore wise as serpents and harmless as doves."

To increase his income we need better roads. Each county or section should be thoroughly organized and, if necessary, charge more or increase his work, or be paid by the state or community for his unselfish Board of Health activities. If the physician has the wisdom and vision and location where better and more diversified crops may give a more lucrative return he may supply the potential ability of his clients to reward him

for his services. He may lead the way for establishing manufacturing industries or any business which may bring to the community a larger financial income. It is well known that many a physician with a large general practice considers himself in the lucky class if he can reasonably expect 75 per cent of his work remunerated, and all too often it falls below this point. This should be remedied by the wealthy, or the philanthropic, citizens furnishing a poor fund for every community out of which could be paid medical supplies and services to those without adequate means. We often hear of the rich, good man furnishing endowments for hospi-

als, but the physician is expected to give his services. Occasionally we hear of someone willing to pay the doctor attending a poor tenant or unfortunate family, but many of us, with long years of practice, have never seen the face of this angel.

He should invest early in life a part of his income in good investment securities and a pension which will take care of his old age or keep his family from privation. "Godliness with contentment is great gain," but in this material world we find man seeking for health, happiness and riches, and the physician is seldom an exception.

DR. FREDERICK R. TAYLOR, High Point, N. C.

At the risk of overstepping the bounds of eligibility for the prizes offered, I will amend this title to take in a little broader field, and change it to read, "How the Usefulness and Income of the Family Doctor Can Best Be Increased."

There are several reasons why this change seems imperative. In the first place, no human being can be entirely self-sufficient, though the family doctor often has to approximate as nearly as he can, that impossible and undesirable ideal. Second, while the public, especially certain laymen of great wealth, have been pretty thoroughly aroused to the fact that research workers and others attached to great educational institutions need help, and have responded generously with great endowment funds, thereby giving untold blessings to future generations, for some strange reason, the importance and value of the great mass of men who are daily meeting the issues of life and death that immediately confront us in the present, the family doctors, have never been adequately recognized. Third, the typical family doctor is usually so busy in meeting these issues that of him it may be said, as it was of the Great Physician, "He saved others, himself he cannot save." Therefore, while there are certain things that the family doctor can and should do for himself, his greatest handicap is the lack of adequate facilities and of the recognition which is his due.

From the standpoint of present public welfare, the family doctor is, with few excep-

tions, incomparably the most important member of the medical profession, for he is called upon to deal with the overwhelming majority of the ills of mankind, including most of the gravest emergencies.

The family doctor, then, is the backbone of the medical profession, and the most vital factor in public health. His income is admittedly inadequate, therefore, to increase it will increase his usefulness, so we can really boil down our problem to the single question of how to increase his usefulness. He is already so useful that he is quite indispensable, but so he was a thousand years ago, yet the family doctor of today has powers over disease that are beyond the dreams of the practitioner of only a century ago. The more important and indispensable any factor in society is, the more it is incumbent on society to develop that factor to its highest possibilities.

The central difficulty which confronts the family doctor is the fact that he is so habitually overworked and underpaid. The very title prescribed for these essays recognizes this point. Being overworked and underpaid, he has neither the time nor the money to study, take post-graduate courses, and recreate himself in the way that would keep him at his highest efficiency. The more conscientious and capable a doctor is, the more he feels the need of time and money. The general practice of modern medicine at its best requires a great deal of both, and society must wake up to this fact and provide for



the family doctor as effectively as it has provided for the research worker and the public health officer, if it values its own physical salvation.

The greatest difficulties outside of the strictly medical and financial problems, which formerly confronted the family doctor, especially the rural doctor, are being rapidly removed. No longer need he fear bad roads as the chief hardship of practice. The automobile is a wonderful time and energy saver, albeit a more or less costly one. Electric lights, private water systems, the radio, and many other inventions, are, *when he can afford them*, fast breaking down the country doctor's isolation. However, it is a recognized fact that there is a grave shortage of doctors in rural districts.

The foundation of the solution of the family doctor's problem which this paper has to offer is this: *Give every doctor, so far as possible, an accessible center where he can study disease and treat patients under the best possible conditions, and group around this center certain educational, social, and economic features that will prove attractive and helpful.* This center must be a general community hospital, open to all physicians in good standing, supported from at least two sources,—funds paid in by patients, and public funds. The latter may be secured by a direct tax levied for the purpose, or by annual appropriations by the proper body. A third source that is highly desirable when it can be obtained is endowment created by philanthropic agencies. A very frequent mistake that has been made in the past is to restrict the use of public and endowment funds to the care of paupers. We do not do this in our educational program, even in our private institutions of learning. The student who "pays full price" for his tuition in college really does nothing of the sort. He pays only a fraction of the actual cost of his tuition—perhaps from one to two-thirds, and the rest is borne by endowments or some other source of income. This, however, does not make us look on such students as objects of charity in the ordinary sense of the term. Rather, we look on education as a pearl of great price, and as a mighty civilizing factor, and our men of wealth are glad to render the service to humanity as a whole when they make possible by their gifts a grade of edu-

cation that the average paying student could not otherwise afford. Health is a similar pearl of great price, and in some cases sickness is a very expensive thing. Shall we say that only that medical service shall be rendered those of moderate means which is within their ability to pay for, while we render far more complete service to the utterly indigent? Shall Dr. Richard Cabot's statement forever remain true that in complicated cases only the very rich and the very poor receive adequate medical attention? No, this must not be. The backbone of our civilization is made up of working people of moderate means. The young man just starting a family, well trained, keen, ambitious, but with his fortune entirely in the future, may some day achieve fame based on signal service to humanity; but, if his progress is checked by crushing financial burdens, brought on by prolonged and expensive illnesses, he may become a liability rather than an asset to the world. Shall we treat him free? By no means. Charge him as far as possible what the medical service is worth, but if he requires more than he can pay for, why mortgage his whole future while we take care of some wornout tramp for nothing? Let certain excessive expenses be borne out of public funds or endowments. It was a heartening thing to hear this point stressed by Dr. Jabez North Jackson in his presidential address before the American Medical Association in Washington last May.

Our proposed center must, of course, be equipped with special technical departments, laboratories, x-ray facilities, etc., which will naturally be under the control of men competent in these fields. Proper supervision of the entire hospital through a medical director, superintendent, board of managers, or some other adequate agency will have to be worked out in every case, but every reputable physician should be encouraged to bring his patients to the hospital for study and treatment, and no favoritism must be shown to one doctor over another. Certain standards, however, should be laid down to insure the competence of those essaying to do major surgery.

The consolidated hospital is as much a real need as the consolidated school. Ambulance service should be provided for it just as bus service is for the school. *There should be one or more such hospitals located in every*



country in the United States, according to geographic size and population. The hospital should have a good working medical library open to all physicians, with a special department open to the public for the spread of health information adapted to their needs—such material as appears in "Hygeia," "Nos-trums and Quackery," the various A. M. A. pamphlets for the public, state health bulletins, etc. This will help to educate the people to the value of a good family doctor. A room should be provided where medical meetings can be held, clinics given, and public health talks delivered. When practicable, lantern, or even moving picture equipment should be available for such gatherings. Naturally, only the larger centers can afford the latter, as a rule.

Much has been done for some family doctors by university extension post-graduate courses in medicine, and it is a signal honor to our state that she was the first to introduce this great work. Its scope can be increased by the educational facilities of the hospitals proposed. Bi-monthly, or even monthly, free lectures and clinics might be given at every hospital by men sent out by state or university authorities. They should teach the practical essentials of history-taking, physical diagnosis, urinalysis, treatment, etc., and show when and why it is really necessary to refer patients for special work. Practical discussions of the proprietary evil should be given at least once a year, with striking demonstrations of irrational preparations that will fix themselves in the minds of those present. Constructive therapy should be taught. Autopsies should be encouraged, and they should be, as far as possible, thrown open to all physicians in the community, who should be urged to attend them. Public lectures can be used to teach the people to request autopsies rather than to refuse them. Every medical lecture should have, so far as possible, a practical clinic coupled with it. Community health campaigns can be conducted from these hospitals as centers, and thus the family doctor can be brought into closer contact with public health agencies.

However, when all is said and done, is not this program impossible, a mere Utopian dream? No, it is not. Fifteen years ago, anyone who had predicted the present highway system in North Carolina would have

been thought a madman. Despite the great vision of men like Aycock, there were few persons in this state fifteen years ago who would have dared to prophesy our present school system. Private and public health can be handled just as efficiently as roads and schools, if only the people can be awakened to the possibilities of the extensive application of modern medicine. A great foundation has just been established to aid in the development of medicine in North Carolina. It already gives promise of being administered in an exceptionally broad, constructive way. If a system of medical centers, one or more for each county, should be planned by our state, with a State Hospital Commission comparable to our eminent State Highway Commission, it does not seem improbable that the Duke Foundation might join forces with the state in putting the program into effect.

Is this paternalism, "State Medicine?" Of course it can be made so, but it must be kept free from such a tendency. An absolutely indispensable element in any properly run public hospital is an efficient social service department that can and will investigate all cases claiming to need financial help and eliminate the dead-beats. There is no shadow of excuse for people to come to the hospital in six or eight-cylinder automobiles which are their own or on which they are making payments, and expect to be regarded as charity patients. Such a practice indicates a serious abuse of hospital facilities. The state medical authorities should no more hamper the family doctor in his practice by giving him hospital facilities than the Highway Commission hampers any citizen in the right and proper use of the roads, and in his freedom of moving from place to place. The medical centers advocated will relieve private hospitals of unjust financial responsibilities. They need not interfere with the proper sphere of such institutions any more than the state highways interfere with county roads or private lanes. They will, however, make it unnecessary for private hospitals to accept patients unable to pay their expenses. No doubt certain densely populated counties and many cities will have their own institutions, too, but there should be no conflict. We see no more reason to fear too many good hospitals than too many good roads, schools, bridges, etc. If some poor struggling private

hospitals are put out of business, both the doctors operating them and the public will gain thereby, as the doctors can treat their patients just as well or better, in the new medical center, with far more adequate equipment than they could themselves afford, yet without financial worries.

So much for what an awakened public can do for the family doctor and thus for itself. There are some things, however, that the doctor must do largely for himself, especially as regards his income. The most important of these is that *he must adopt sound business methods*. The only good reason for sending out annual bills is a local situation that compels practically all commercial transactions to be made on an annual basis. Such a situation is very rare indeed, if it exists at all. If the grocer sends out his bills once a year, and other merchants do likewise, then the doctor and other professional men may properly do the same, but if the doctor is expected to pay his bills monthly, he should collect on the same basis. He must educate the people to realize that he must have an adequate income if he is to render adequate service, and that a poorly paid doctor means a poorly equipped one just as surely as a poorly paid man in any other walk of life means a man who cannot measure up to his full responsibilities.

Every family doctor should develop the technic of periodic health examinations, and teach his community to recognize their worth. Lectures can be given in the medical centers on the economic value of health and kindred topics, which will be a powerful ally in furthering this work. All these varied activities will mean a new strength to the family doctor, and an increased appreciation of his real value.

It seems so obvious as to be hardly worth mentioning, were it not for the fact that we

see so many violations of the principle, that any doctor who is to command the respect of his community should have an attractive office. It does not need to be expensively or elaborately fitted up—there is no justification for an office that attempts to substitute expensive fittings and “powder monkeys of both sexes” (to use Dr. Hubert Royster’s great phrase), for real ability; but it does need to be a place which indicates that its occupant is a person of education and refinement. A dirty cobwebby office fitted up in utter disregard of the canons of good taste, with a covering of tobacco juice on the floor and lower walls, is far too common a sight, and it does not reflect credit upon, or offer much hope for the improvement of, a member of a learned profession.

The adequate keeping of records, medical and financial, must be a part of the machinery of any efficient office. These things cannot be forced upon the doctor—he must adopt them for himself.

To sum up, then, our program is this: One or more open community hospitals in every county of every state, supported by public funds, endowments and other gifts when such are available, and by the payment of obligations by patients; and the marking of these hospitals into centers of continuous post-graduate medical education by libraries, lectures, clinics, and medical society meetings, as well as the use of them for the education of the public in health matters, and for bringing public health officials and private practitioners into closer understanding and co-operation. In addition to this, the adoption of sound business methods by the family doctor, and the education of the people to recognize both the necessity for this, and the very great economic value of health and adequate medical service.



## THE EARLY DIAGNOSIS OF TUBERCULOSIS\*

CHARLES L. MINOR, M.D.  
Asheville, N. C.

In the short space at my disposal I must limit myself to a few remarks on the recognition by the general practitioner of early cases of pulmonary tuberculosis. If the doctor is to get the brilliant results which early recognition and intelligent handling permit, he must, when patients consult him, be keenly on the lookout for those early symptoms which should always suggest to him the possibility of tuberculosis and yet which are so often overlooked or mistaken. Tuberculosis is so common a disease that every doctor must have its possibility in his mind.

The diagnosis begins with the realization by the doctor of the possible meaning of the patient's complaints. These should at once arouse his suspicion, yet too often he obstinately refuses to consider their significance.

His suspicions being aroused by the patient's report, a carefully taken history with tuberculosis in mind will make half of the diagnosis in incipient cases. The early case is apt to give an asthenic or a catarrhal history, though some very early cases begin with a small hemorrhage.

The asthenic case has usually been tired and run down and below par for some time, off in appetite, weight and color or with dyspeptic symptoms. There is some cough but not as marked as in the catarrhal type, and the sputum at first is scanty or absent, yet every effort must be made to collect and examine it carefully. The temperature at first is apt to be moderate, in the 99's, or may be absent, but if carefully sought for will generally be found after exercise. While many of these symptoms are common to various diseases, pulmonary tuberculosis is so common that they should at once excite our suspicion. This insidious onset, marked especially by tiredness, is the most common form and is often mistaken for neurasthenia, dyspepsia or anemia with disastrous results.

The catarrhal case comes complaining of an irritating cough of some duration with a moderate amount of sputum. It has been

mistaken for influenza or bronchitis until its duration alarmed the patient. As the temperature comes on there is evening tiredness and here the microscope and the thermometer will not fail to put the careful doctor on the right track. Hoarseness is common and loss of weight usual.

The small hemorrhage initiates the hemorrhagic type, and the physician who would belittle a hemorrhage, however small, and fail to recognize its significance is playing with life and is unworthy of a diploma. Yet too often the cough is explained as due to smoking, the tiredness to overwork, and the blood to a "broken blood vessel" in the throat, and many cases give histories of several hemorrhages each mistaken by the doctor while the disease had time to progress.

Some cases begin as a pleurisy and the profession cannot be too careful to warn every case of pleurisy that it is usually only another term for early tuberculosis.

The patient's symptoms having suggested tuberculosis a careful and searching written history must follow. Investigation of all those in the family or in the patient's environment will often reveal hitherto unsuspected cases of chronic cough or of "nervous breakdowns" in the family or those with whom they have been associated. The hygiene of the home must be gone into carefully, the childhood history may show frequent colds or coughs, enlarged cervical glands, malnutrition, anemia, pleurisy or pneumonia. The past life from puberty to the present sickness will often reveal forgotten and suggestive sicknesses, winter colds, pleurisies, etc., while a study of the exact conditions of life, hours and places of work and nature of amusements give us many valuable hints. The present complaint has been already found out but can now be further detailed and is, of course, the crux of the history.

I have found it useful to ask the patient "When were you last perfectly well?" for they are prone to date the sickness back only a short time to some striking symptom and to overlook important long precedent symp-

\*Published at the request of the National Tuberculosis Association.

toms. Not rarely the sickness can thus be traced back for months or years. The physical examination while it need not be as minute as that of the specialist must be accurately and systematically carried out and recorded on a proper chart both for future comparison and to make sure that a proper routine is followed.

The room must be about 70 degrees and the light must fall at right angles on the chest to allow of accurate inspection. I hope it is no longer needful to note that the patient's chest must be entirely exposed. Inspection well done is almost as valuable as auscultation in early cases and must never be neglected. Very early in the development of tubercle in an apex or upper lobe the surface of the supra-scapular fossa flattens and later hollows, the shoulder outline from neck to acromion, which is normally slightly convex, flattens and becomes a straight line, while the clavicle becomes more prominent. Later the shoulder on the affected side droops and in deep breathing lags or is retarded. To see these at first very slight changes demands care, time and proper lighting, and at times retardation will be better shown by palpation. Mensuration gives us two very useful facts. Measuring the hemi-circumference *R.* and *L.* from the eighth spine to the center of the sternum at the fourth rib will very early reveal shrinkage of the affected side and limitation of motion, unless an old healed lesion exists in the good side. Marking the location of the base of the lungs in front and behind at rest and after deep inspiration will reveal limitation of motion on the affected side very early and is an invaluable procedure.

Percussion unfortunately calls for especial skill if it is to be valuable and not misleading, and is often so badly done as to be useless.

The blow must be light, save on the muscles of the back, the rebound quick and elastic, the motion confined to the wrist or metacarpo phalangeal joint. The ear must be trained to recognize length, pitch and quality and these changes can more easily be heard by percussing from resonant and less resonant areas.

Good percussion will reveal quite early shortening and impairment of the note over the apex in front and behind, but real dull-

ness is not an early sign. The careful mapping out of the outer and inner borders of the area of apical resonance above the clavicle (Kroenig) is very valuable in revealing early shrinkage of the apex, which begins very soon after development of tubercles in the upper lobe, but it demands a thorough command of percussion.

Auscultation is our most accurate means of diagnosis despite those who would place the x-ray first, but the doctor must be able to interpret its findings in terms of pathology correctly, not always an easy task. Auscultation must be comparative from side to side and vertical from bottom to top. Attention must be paid to the pitch, quality and duration of the breath sounds and to the nature, quality and time of rales. Any breath changes or rales to be significant must be limited in area and persistent, or must return later if cough removes them, hence in doubtful cases our examination should be repeated at different times, especially on waking.

The diagnostic value of breath sounds in very early cases I would state as (1) granular, (2) feeble, (3) harsh and prolonged, (4) cogwheel, (5) vesiculo-bronchial, (6) broncho-vesicular, though this is scarcely an early change. What I have called granular breathing, called by some rough, is the *respiration rude* of the French, or the *rauhes athmen* of the Germans and was especially stressed by Grancher. The breath sound, instead of being continuous and smooth as in normal breathing or interrupted as in cogwheel, shows rises and falls of intensity and sounds almost as though it were about to break into moist rales. A patch of this breathing limited to a small area and persistent is a very valuable early diagnostic sign and before long rales will appear in this area if the case progresses. Feeble breathing is suggestive but not so diagnostic, while prolonged harsh expiration is strongly suggestive. As the case becomes less incipient, vesiculo-bronchial breathing, evolving soon into distinct broncho-vesicular, which is not an early sign, appears. Cogwheel breathing comes with an inflamed pleural surface rather than with parenchymal changes.

The typical rale of early tuberculous infiltration is the fine dry crackle of Walshe. Distinctly dry, sharp, few in number, heard at the end of cough following expiration and



limited to a small area and persistent, they are our most diagnostic sign, but a diagnosis must often be made from the inspection and breath sounds before rales appear. When they develop into larger dry crackles and then into fine or medium moist rales (unfortunately called subcrepitant) they give us invaluable information of the pathology and development of the process, but are not extremely early. Still a crop of fine or medium moist rales are an ominous and an invaluable sign of the fire that is destroying the lung.

In early cases rales will be heard only after cough following expiration, or at least deep breath; when heard on quiet breathing the disease is well advanced.

In the space at my disposal I cannot treat of the x-ray as a diagnostic measure and the majority of doctors will not command the skilled procedure and interpretation which make it invaluable. The physician should be able to diagnose most cases without its priceless aid though no man who specializes in tuberculosis could dispense with it, but it must be taken by an expert and interpreted by him, and to rely on it alone for diagnosis is an unpardonable error. If we must dis-

pense with the regular steps or the x-ray let it be the latter, but it gives the expert a breadth of information that is wonderful and invaluable.

When the examination is finished all the data must be gone over carefully, the positive facts assembled, the patient considered as an individual and not just as a case, and then a conclusion drawn; but an early case may have to be watched and studied for some time before we can give an opinion.

A two hourly temperature and pulse record, first at rest, then after exercise, must be taken and we must never fail to seek for and examine the sputum carefully and repeatedly. I have found it a good thing to underscore in red in the history and the examination chart each positive finding. Such an examination need not be too time-consuming and in any case where a human life is involved we cannot afford to slur anything. Such a procedure followed by the general practitioner will reveal many cases while still curable, which now, too often from carelessness, go unrecognized till the opportunity for cure is gone.

### THE USE OF NEGOTIABLE PAPER

The foundation of our present day practice of settling business transactions through the medium of negotiable paper, checks, drafts and bills of exchange, dates back nearly a thousand years. The medieval merchants of Italy, France, Spain, and other European countries were beset with ruinous hazards in transporting money and the movement of their goods was hampered by the exactions of scores of petty states. These difficulties and uncertainties drove them to inaugurate those trade customs which found expression in the so-called "Law Merchant," and the establishment of their own courts for the settlement of disputes and for the adjustment of the commercial claims.

In those early days, these traders developed sufficient unity and organization to enforce their own practices and to secure substantial uniformity in application. Bills of exchange, letters of credit, and similar commercial documents came into general use.

Although statisticians have given various estimates of the extent to which commercial transactions of today are settled through the medium of bankable paper, it does not seem unreasonable to assume that at least 95 per cent, by volume, of all business dealings are paid in that manner.

—Bureau of Standards.

### TREATMENT OF PRIAPISM

The easiest method of evacuating the blood clot in the corpora cavernosa is by aspiration. It is simple, may be done with minimum danger, and there are no contraindications to its frequent employment, if necessary. The method of aspiration [with a 20 c.c. Luer syringe] produces much less trauma to the mechanism producing erection, than the more radical surgical procedures. Therefore, the probability of subsequent normal erections is much greater.

—McKay and Colston in *Journal of Urology*.

## FROM THE LATEST MEDICAL LITERATURE

## THE PRESENCE AND IMPORTANCE OF YEAST-LIKE FUNGI IN THE GASTROINTESTINAL TRACT IN PERNICIOUS ANEMIA, IN OTHER DISEASES AND IN NORMAL INDIVIDUALS

Robert N. Nye, Leon G. Zervas and M. Agnes  
Cornwell  
*Amer. Jour. Med. Sci.*, CLXXV, 2. Feb., 1928

This admirable piece of mycological research from Thorndike Memorial Laboratory of the Boston City Hospital is most timely, for there is hardly another field in the whole realm of medicine in which confusion is worse confounded than the classification and nomenclature of the higher forms, and notably of the yeasts.

The literature of the role of the yeasts in the causation of intestinal disease is rather fully reviewed, notably that of Kohlbrugge in 1901 and Castellani more recently. The claim of Ashford that a yeast, named by him *monilia psilosis* and called by others *parasaccharomyces ashfordii*, is the cause of sprue is given deserved consideration.

The failure of the authors as well as that of Warthin to confirm the finding of the *monilia psilosis* in pernicious anemia is clearly set forth.

A great majority of the many strains of yeast-like fungi isolated from the stools and gastric contents in a variety of diseases have been placed in a single group and are designated *parasaccharomyces A*. The classification is based on morphology and cultural peculiarities. It is stated that members of this large group cannot be distinguished from named strains of *monilia psilosis* or from yeast-like fungi isolated from typical thrush membranes or sputum and are apparently of common occurrence in the human gastrointestinal tract. In achylia gastrica there was a greater incidence of isolations of these fungi than in cases with normal hydrochloric acid. Isolations were just as numerous in severe secondary anemia and gastric achylia as in pernicious anemia.

On the basis of these observations it seems likely that *monilia psilosis* is unimportant as

an etiologic factor, not only in pernicious anemia, but also in sprue: this is the final conclusion of the whole matter according to this research.

These medical workers were fortunate in having the helpful suggestions of Prof. C. W. Dodge of the Department of Botany of Harvard University. The plan and scope of the details of the work can only call forth profound admiration especially among those who have groped about in the dark searching for accurate information especially in the determination of the species of the higher forms and more particularly of the yeasts. For years the French have recognized the important place of the yeasts in the causation of disease, but in the English-speaking world there has been a veritable dearth of anything except a single translation from the University of Illinois by Tanner of the work by Guilliermond, which was not primarily intended as a medical aid and which is obsolete today. The present article, while little more than twenty pages in length, must be the American's guide to a study of pathogenic yeasts until some one decides that the subject is deserving of a more pretentious place. We have a long way to go in this country before we can catch up with the French in this division. Already there is a division of mycology in the Pasteur Institute in Paris and one is able from a hasty perusal of the *Bulletin de L'Institut Pasteur* to see how far we have lagged behind.

Whether or not the clinicians studying sprue will abandon the yeast conception of its etiology on the strength of this report remains to be seen. Whether or not the view held by a very few that sprue and pernicious anemia are merely types of one and the same condition will be influenced one way or another by this work is also problematical. In the light of the fact that the liver extract of the Harvard Committee on Pernicious Anemia has produced dramatically curative effects in sprue may make this apparently fantastic conception more difficult to unroot than would appear at first thought. Any-

thing that will stimulate the systematic study of the pathogenic yeasts and the separation of the pathogenic from the non-pathogenic forms is worthy of the reader's consideration.

*Edward J. Wood, Wilmington, N. C.*

#### GOITRE EXOPHTHALMIQUE CHEZ L'HOMME

Dr. Paul Sainton, Paris  
*La Presse Medicale, 7 Janvier*

The patient is a man of forty-eight. He works in a store. His trouble came slowly, with exophthalmia as the most pronounced symptom,—great weakness, and the loss of about forty-six pounds in weight, within about one year. He suffered greatly from palpitation, also with hot flashes followed by drenching perspiration.

After visiting numerous physicians without any relief, he came to Dr. Paul Sainton, at the Hotel-Dieu. Sainton found that his exophthalmia was somewhat more pronounced on the right side and there were heavy, sacculated pouches under his eyes. He observed a slow, rhythmic tremor to his lids when he attempted to close them. Von Graefe's sign was present,—a sign found also in disorders of the corpora-quadrigenini and in certain post-encephalitic conditions. Sainton made the interesting observation that he had known two medical students who could simulate this symptom.

Convergence of the eyes was limited, especially on the right (Moebius sign). There was spontaneous and intermittent nystagmus, especially noticeable in the extreme position. The second symptom of Basedow's syndrome, tachycardia, was present, the pulse running from 100 to 160, in repose. Blood pressure ranged between 150/80 to 170/85. The chest shook in the cardiac region from the violence of the palpitation—maximum in the sixth interspace. Heart sounds were not abnormal. Face flushed exceedingly at times. Insomnia was a troublesome symptom. A fine, rapid tremor was visible on the extremities.

The fourth symptom of the classic syndrome was absent. There was no hypertrophy of the thyroid visible. No sign of enlargement could be found excepting a suspicious feeling of resistance just over the sterno-clavicular region. Radioscopic examination showed an obscure mass with well defined outline. It extended as low as the

arch of the aorta. No deviation of the esophagus was apparent by the barium test. There were no changes in the sexual field. The basal metabolism registered 116/100 either a misprint or some scale with which the reader is not familiar).

It was necessary to eliminate tuberculosis, cancer and a syphilitic condition. There were no signs of tuberculosis other than the loss of weight, x-ray tests being negative. Cancer was eliminated because of lack of supporting symptoms to the loss of weight. In syphilis the thyroid is usually atrophied; besides, the Wassermann was negative.

The prognosis given the patient was good, inasmuch as the pulse was not high and not much altered by exercise. Tremor was not marked, exophthalmia was not severe and the psychic symptoms at most were mild, there being so great psychic instability or irritability and no changes sexually. The case was, therefore, classed as mild. The worst symptom was the high metabolic rate, associated with the great loss in weight.

The treatment which he had been given consisted largely in the advice to quit work,—which he had been unable to do,—the recommendation of a non-irritating and non-excitng diet. He had taken small doses of dehydrodized blood serum and a small amount of sedatives. At the Hotel-Dieu he was given larger doses of dehydrodized serum and 20 to 25 grains of sulphate of quinine and the same amount of sodium salicylate, per day. Valerian and Crataegus were used to calm excitability when necessary. Galvano-faradism was not tried because the man was too busy at work. Surgery was deemed entirely too risky to be attempted. Radiotherapy was considered to be the easiest and safest method of treatment and was given directly over the tumor, as seen radioscopically. Seven applications were given, one each week, the dose being 2,800 to 3,000 R's.

The symptoms all disappeared during the period, excepting the exophthalmia, and it had diminished perceptibly. The patient gained in weight. As soon as the basal metabolism became normal, it was deemed advisable to discontinue treatment and the patient was discharged as cured, at least for the time being.

*Wesley Taylor, Greensboro.*



## PRESIDENT'S PAGE

For several years I served as secretary and treasurer of the Tri-State Medical Association of the Carolinas and Virginia. At times, especially for a period of six or eight weeks immediately preceding each annual meeting, and for a few weeks afterwards, the work was heavy. And my own individual professional work imposed its own peculiar responsibilities and burdens. But those years were happy years for me. I loved the secretarial work; I loved my fellow-members of the organization, and I appreciated keenly always the opportunity that had been given me to render service to sick people by being permitted to be of some use to the doctors who ministered to the sick. During my period of office as secretary I called upon no one of my fellow-members for help in vain. Always they were generously cooperative. That spirit in them will continue; of that I am certain.

Every month from the present moment until the moment of the next meeting of the organization I am going to appeal to our membership through this page for a vigorous continuation of that cooperative spirit. During this period I shall be forgetful of myself because I shall be consumed with thought about the approaching meeting and the general welfare of the organization. I shall care little about what thought of me as an individual my fellow-members may entertain, but I shall care much about their thought of my plans for the Greensboro meeting. My presidential experiences are limited. I am without organizing skill. My use of the pen is not easily made. Writing for me is difficult because of paucity of ideas. I can not stand before medical assemblages and talk at all because of stage fright—that ineradicable disorder of vaso-motors, or of the mind, or of the entire organism. Plans for the success of the meeting must come to me effervently from every member of the body. I shall try to make them effective by the coordinated counsel of my fellow-officers.

May not the meeting next year occupy three days instead of two? May not half of

each day be devoted to clinics? May not there be three night sessions; one devoted to round table discussions, informally but seriously, of different medical problems? May not one night session be given over to two or three invited guests who could talk to us unhurriedly and earnestly about two or three subjects about which the generality of us know little: for example, cardio-renal disease, malignancy, and the present limitations of laboratory helpfulness in diagnosis? Might not the final night of the meeting—the third night—be reserved for the enlightenment of the public? Greensboro is a school and college town. The people there are as curious to know about the new things as the Athenians were to know about the new theology when Paul spoke to them from Mars Hill.

What would you have your invited guests talk to you about? Have you read the exceedingly interesting little book—*Post Mortems*—by the now dead Doctor MacLaurin? In that little volume he dissects not dead human bodies but the personalities of some of the leaders of civilization in the long-ago. He wonders about the effect of disease upon progress by its influence upon the mentalities of rulers. Would you not like to hear some one talk to us about such a theme?

Climate and topography—do they not have their influence upon the anatomy and upon the physiology of the human body as exemplified by malaria, pellagra, sprue, intestinal parasitosis, goitre, tuberculosis, and numerous other affections that handicap or kill? Might we not hear from some authoritative source facts and opinions about modern industries and the health or lack of it in those who toil that we may live? Would we not be entertained and enlightened by some great sanitary engineer who could tell us of the contributions of that science to modern welfare—in drainage, in heating, lighting, ventilation, plumbing, in water supplies and through the myriad mechanical devices that tend to make living more wholesome and happy?



Through constituted legal authorities the nation and the individual states license certain qualified individuals to minister to the sick, and the law holds them to accountability for their work. Would you not like to ask some able lawyer or judge to talk to us about the law and the doctor?

About such matters I should like to have suggestions from our members. The practice of our high art is no longer limited to the administration of chemical substances for the relief of pain and to operative procedures for the correction of deformities, inherent or the result of disease. We are concerned about all those things that human beings think and

do. Progress depends upon sound health; retrogression is the manifestation of lack of health in body or in mind.

Fellow-members, I am only your servant, but I can not render you service without your help; judge me; be frank with me; make me to know my duties; lessen my shortcomings, but do not pull backward. Let me know your hopes and your fears. Let your lights shine upon me.

*Jas. H. Hall*



# SOUTHERN MEDICINE AND SURGERY

Editor

JAMES M. NORTINGTON

## Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	Human Behavior
FRANK HOWARD RICHARDSON, M.D.	Black Mountain, N. C.	Pediatrics
W. M. ROBEY, D.D.S.	Charlotte, N. C.	Dentistry
J. P. MATHESON, M.D.	Charlotte, N. C.	Diseases of the Eye, Ear, Nose and Throat
H. L. SLOAN, M.D.		
C. N. PEELER, M.D.		
F. E. MOTLEY, M.D.		
J. L. MILLER, M.D.	Gastonia, N. C.	Orthopedic Surgery
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	Urology
JOHN D. MACRAE, M.D.	Asheville, N. C.	Radiology
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	Dermatology
PAUL H. RINGER, M.D.	Asheville, N. C.	Internal Medicine
GEO. H. BUNCH, M.D.	Columbia, S. C.	Surgery
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	Therapeutics
HENRY J. LANGSTON, M.D.	Danville, Va.	Obstetrics
CHAS. R. ROBINS, M.D.	Richmond, Va.	Gynecology
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	Neurology

## THE VIRGINIA BEACH MEETING

Expressions from nearly every member present and many of the visitors go to show that the latest meeting of the Tri-State Medical Association was in every sense a success.

The founders of this association placed in our constitution a requirement that some special subject should be discussed as a part of each annual program. So the idea of having a symposium dealing with conditions which are depriving the most valuable members of society of their lives, and which conditions can be corrected to a large degree, is in entire agreement with the aspirations of our Tri-State forebears.

We had thought (and said) that, not only every doctor, but every human being, would be intensely interested in this subject. It seemed that, though they might disregard the term *Obstetrics, Maternal Mortality* would immediately appeal to every mother's son; for, as one inspired correspondent says, "it deals with processes by which all of us come into the world, and by which entirely too many good women leave it."

A story has been told of a wealthy shipowner, a passenger on a line not his own, replying to the purser's clamorous demand that he get up because "the ship is on fire!" with, "Don't bother me, this ain't my ship."

It is not likely that there is a doctor in the territory of these three states who has neither wife, sister, daughter, grand-daughter, nor other dear one, whose life and health is materially influenced by the status of knowledge of the proper conduct of pregnancy, labor and the puerperium; more, there are many who have to mourn untimely deaths from mismanagement at these periods.

It is hard to believe that a doctor—or any other "man that is born of a woman"—can be uninterested in maternal mortality.

We have every confidence that hundreds of lives will be saved, that hundreds of mothers will remain to rear their children and adorn their homes, because of the presentation of their cause in this symposium, so much of the value of which we owe to our guest, Dr. Harold Bailey, of New York.

The Address of the President was a scholarly dissertation on many aspects of the affairs of doctors collectively and individually. Our guest, Dr. Joseph L. Miller, of Chicago, told us where we stand in our fight against our ancient, unrelenting enemy, pneumonia. The manuscripts of the president's address and that of Dr. Miller having been delayed in delivery to the secretary, can not appear in this issue of the journal. It is hoped that they can appear, with extended

comment, in the issue for April.

The papers are miscellaneous subjects covering matters of great importance, and were exceptionally well presented.

That we had too little time for discussion was evident, a defect which will be remedied in subsequent meetings. However, in that too-little time much of value was brought out. One of the participants in the symposium has written that Dr. Cyrus Thompson's discussion was just what was needed to make it complete.

The members of our committee on arrangements gained our permanent gratitude by their thoughtful attentions throughout the meeting, and the provision of the hotel management for our comfort left nothing to be desired.

To us it seems that the holding of a simple memorial service for our fellows who have died in the past year is an especially fine custom in the forming. The paying of these tributes to those fallen in the strife serves as a real benediction, and sends us home with soothed spirits and kindly thoughts.

---

#### PRESIDENT HALL

Pretty nearly every reader of this journal, regular and casual, knows what manner of man is our new president. His almost equal division of his span of years between North Carolina and Virginia; and his many, intimate, sustained connections with South Carolina, have probably made him known to more doctors in these three states than is any other man.

In every post he has occupied, whether of his own choosing or that of others, he has achieved a notable success. His pleasing look and manner draws men and inspires their confidence; his profound intellect, his broad sympathies and his unselfish loyalty to worthy ideas and worthy men, keep men bound to him.

His service record as secretary of this Association is comparable to that of Alexander Hamilton as Secretary of the Treasury, of which it was said: "He touched the dead corpse of public credit and it sprung upon its feet."

President Hall's administration will be a conspicuously successful one because, as he

loves to work for others, others love to work with him.

#### OUR NEW MEMBERS

Turn to page --- and read over the list of doctors who have just come into the Tri-State Medical Association. There you will see unmistakable proof of the high class of work the Association is doing, and definite assurance of its continued usefulness, prosperity and high standing.

Many of these new members are my personal friends. With many others have been established most cordial relations through the medium of correspondence. All of them I want to know well.

Right now each one is earnestly urged to constantly bear it in mind that this is a very democratic body; that each member's opinions are given consideration equal to those of any other member; and that the secretary-editor and all the other officers solicit your active, sustained interest, your suggestions, your criticisms.

One of our members has shown such conspicuous zeal for the cause of the Tri-State that he must be given special mention. Dr. Vance P. Peery, of the fine old city of Kingston, becomes a member, and at the same time brings in six others.

In his charming *Memories*, Dr. Victor Vaughan says he claims relationship with the good Vaughans, only.

I never saw Dr. Peery; I know nothing of his family connections. But he is my brother!

---

#### MEANS OF INSURING PEACE

The end of war is in sight, if Gen. Gritz V. Holm, Danish explorer, lecturer, writer and war correspondent, and holder of 51 decorations, has his way. And his way is remarkably simple. He would have it fixed by law that in case of war the statesmen who have power to declare it would be forced to enter the ranks as private soldiers in infantry shock-troops or as sailors on submarines.

If Gen. Holm's plan were written into the constitution it is a safe bet that national honor would be an elastic element. It would stretch and expand, and release and then stretch again, but it never would quite break. And we imagine that if "Admiral" Heilin were reduced to the ranks as sailor on a submarine he would be willing to concede something to the Pope.—*Hickory Record*.

The doctor's position is a peculiarly favorable one for seeing the foolishness, the futility, the hellishness, the utter asininity of war. He sees men brought in from the fields of carnage, blinded, choked, dismembered, disemboweled; and he is supposed to repair

these injuries insofar as he may, and send the men back to have the process repeated over and over. Could anything be added to this proof of the fact that we are neither Christian nor civilized?

While the war was on we were one of the many who were duped by the promise to make it "a war to end war." Now we have no illusions as to the utter depravity of international morals, understanding fully that the same individual may readily be an honorable man and a thoroughly dishonorable senator, and that there were many in this country who earnestly regretted the ending of the war because the armistic checked the flow of unearned dollars into their pockets. Human nature has not changed.

Still we are hopeful for the future. We do not believe there will be any more great wars. Our hope lies, not in the kindliness or unselfishness of coming generations. *It lies in their fears.* Heretofore the men who brought on wars did not fight them, nor were their lives or property often placed in jeopardy. Generally makers of wars, on both winning and losing sides, have been found in fine fettle physically and much richer in pocket when the wars ended; they and theirs having, in the words of Dr. Wm. H. Taylor, "assiduously cultivated peace in order that they might fittingly celebrate war."

The change in the nature of warfare argues strongly for peace. Makers of war sitting in Washington, London, Berlin, Rome or Paris, are no longer safe in their persons or property. They can have no assurance that the ink will be dry on the declaration of war before a thousand pounds of T-N-T will be dropped through the dome—and they just as dead as a second lieutenant who was a moment ago leading his captain's company. Assuredly these Mahomets would never go to the mountain; but now the mountain comes to Mahomet, and comes often.

Does some one say men are not afraid? Young men are not afraid. But old men are. And old men make the wars!

Thoughtful men of all ages have recognized this fact which is so clearly stated by the late gifted Australian surgeon and *literateur*, C. MacLaurin: "As a man grows older, though the likelihood of his death become more and more with every passing year, his clinging to bare life, however painful and terrible that

life may be, becomes more intense." Quoting him further: "I watched many beautiful and gallant boys, volunteers mark you, march down the streets of Sydney on their way to a quarrel which nobody understood . . . and when my turn came to go I patched up many thousands who had been shattered: the one impression made upon me was the utter villainess and beastliness of war, and the glorious courage of the boys in the line."

We are entirely confident that the adoption of two very simple measures would make the so-called civilized world as peaceful as a dovecot. These are:

- 1) Require each man casting his vote for war to sign up for the duration of the emergency before his vote is counted;
- 2) Allow no man, woman or child to own a cent's worth more at the close of a war than at its beginning.

---

#### "LE ROI EST MORT; VIVE LE ROI"

With the close of 1927, the *Boston Medical and Surgical Journal* completed a century of highly distinguished service to the cause of Medicine. Through all the changes rung by the varying and conflicting—and oftentimes sordid—elements, which went to make up medical journalism in the United States of the past hundred years, the *Boston Medical and Surgical Journal* held true to the high purpose of its founders, and was at once a pillar of cloud by day and fire by night, a beacon light for the guidance and inspiration of the worthy, and a constant rebuke to the unworthy.

Now there is no *Boston Medical and Surgical Journal*. Out of a generous spirit of appreciation of the services and the sensibilities of those outside of Boston and Massachusetts who were contributing to its greatness, the journal died in the full promise of immediate quickening into *The New England Journal of Medicine*.

The journal speaks for medical New England; medical New England speaks through it; it represents New England medically; it is fitting that it should bear New England's name.

We can not be insensible of a tinge of sadness at the passing of any old and noble thing. In this instance our comfort is great at the metamorphosis into something which promises even more of greatness, and which



we confidently predict will "by patient continuance in well doing seek for [and obtain] glory and honour and immortality."

#### ON DAMAGES TO BONES AND REPUTATIONS

"Bones are supposed to be filled with red or yellow marrow; in reality they are full of black ingratitude."

—C. B. Lockwood.

A "Dissertation"<sup>1</sup> on this subject, and with this prelude, has just appeared from the pen of a famous English surgeon. That the title has aptness and fitness, no one who has had the responsibility of treating fractures will be disposed to deny. That fractures and diseases of bones are a source of disappointment to patients and their medical attendants, and of criticism of the latter, out of all proportion to their relative frequency and the fees paid for their management, is admitted by all who have devoted serious thought to the subject. And that black ingratitude may go so far as to cause a patient to bring suit for \$20,000 against a doctor who had charged her only \$15.00 for the management of a fracture, which \$15.00 had not been paid, can be testified to by at least one capable and mistreated doctor in North Carolina.

A good many factors enter into the explanation of this state of affairs. Until the advent of antiseptics (a little more than a half century ago) fractures were the occasion of a great part of the surgical work of doctors in general. Then practically all were treated in the home, and today probably a majority are there taken care of. Many generations of familiarity has bred an idea of the unimportance of fractures, which idea does not extend to appendicitis, the treatment of which necessitates transfer to a hospital. Besides the rites belonging to the application of an extension and fixation apparatus are unimpressive as compared with the staging of an appendicectomy. Naturally patient, family and assembled loafers think much less skill is required for bringing about a perfect result in a case of fracture than in doing an operation of any consequence; and it necessarily follows that disappointment and resentment

frequently is shown when good union and function are not obtained. The very fact that so little is usually charged for treating fractures in the home leads laymen to think it is a very simple matter, requiring the exercise of so small skill and care as to make failure inexcusable.

The difficulties in the way of obtaining a return to the *status quo ante* of a fractured bone are real and many; indeed a great proportion of poor results would have been poor no matter in whose hands the patient had fallen. Agnew is quoted as having said that every fracture of a long bone resulted in some shortening. The texts on the subject abound in such expressions as: "The prognosis for full functional result is poor," "delayed union is not infrequent," "a good functional result may be obtained with evident deformity." In 1911 (and it is doubtful if much improvement in treatment has been made since) Scudder stated that, of a series of 35 cases of fractures of the leg treated in the Massachusetts General Hospital, 13 legs were "as good as the other leg," while 22 were "permanently impaired in some particular." Of course this does not mean that they were not useful legs.

Professor Groves points out that in 90 per cent of 50 cases in which litigation resulted from the treatment of fractures, the main point on which a charge of negligence was based consisted in the absence of x-ray examination. This tells its own tale and carries its own warning. The public has an almost pathetic faith in the possibilities of the x-rays; and, invaluable as are these rays, they are not an unmixed blessing, for their betrayal of the fact that the anatomical result is not perfect, although function is entirely satisfactory, has been known to cause the allurements of the shadow to cause loss of the substance of good result.

Quoting further: "There remains about 10 per cent of these legal cases in which the chief factor which menaces the medical man's peace of mind and reputation is the accusation or condemnation pronounced against him by another practitioner"; and he wisely counsels that no opinion be given until consultation has been invited.

Notwithstanding these dangers, advice is given that the doctor be not deterred from

<sup>1</sup>A Dissertation on Damages to Bones and Reputations, by Ernest W. Hey Groves, M.S., Lond., F.R.C.S., Eng., Prof. of Surgery, University of Bristol.

this kind of work by menace of ungrateful patients or unmerited litigation; but that he reflect on "how many times we really have deserved censure, but have instead received unmerited gratitude."

The article of which free use has been made served to determine us to do now something in long contemplation; i. e., speak out in support of harried family doctors and all others who treat fractures.

We hope surgeons who have treated fractures in such large numbers as to give weight of great authority to their words will contribute such words to this cause as will make it clear that a poor anatomical result and a poor functional result are by no means synonymous, and that both of these in the same leg or arm do not constitute evidence of either ignorance or carelessness on the part of the medical attendant.

#### WHAT EVIDENCE IS THERE THAT WE ARE CURING ANY PATIENTS OF CANCER?

The reports of constantly mounting death rates from cancer are profoundly disquieting. A statement for England and Wales published in 1923 by the British Ministry of Health shows a sevenfold increase since 1838; and the rate in San Francisco increased seven times from 1866 to 1898.<sup>1</sup> Each succeeding year shows a larger proportion taken off by this route.

Naturally the question comes up: If we are curing any patients of cancer, how appalling would be our cancer death rate, with these we are curing added? Granting that we are winning some individual *battles*, it is generally admitted that the *war* is going against us.

The editor would like to have for presentation to his readers *evidence—evidence which will bear the closest scrutiny*—that surgery, x-ray, radium, or any other measure we are now using is preventing the development of cancer, curing patients of cancer, or prolonging the lives of those having cancer.

Some say operation should be done in the pre-cancer stage. What evidence is there of the existence of a pre-cancer stage, except that gained, in each instance, by looking back

from the cancer stage?

We are told that only in its early stages will surgery cure cancer. Will it cure it then?

We believe that most doctors and intelligent laymen are concerned about these matters, and that straightforward answers will serve a good purpose.

#### THE "TUBERCULIST"

In his first editorial expression, the writer urged that we doctors of the south break away from our willingness to wait for some one in another section of the country to declare for any certain thing, before announcing our own experiences and opinions. No one can estimate the loss to sick folks which is due to just this over-modest (or timid) reluctance to blaze a new path. Dr. Geo. Ben Johnston used to tell us that when his preceptor, Dr. Campbell, was shown Wyeth's "new and improved" method of amputation at the hip; he remarked that it was nothing, that he had used the method over and over and thought nothing of it.

Next to originating a good thing, is spreading knowledge of it. In this issue Department Editor Sloan gives us an immensely valuable discussion of ocular tuberculosis. He renders another valuable service by seizing the word *tuberculist* and passing it on to others. It is an excellent word, expressing a definite and unmistakable idea; and, notwithstanding the fact that it is not to be found in the newest dictionary, we welcome it, and thank Dr. Sloan and those whom he quotes.

It is an easy transition to another department editorial in this issue, which deals with another aspect of the tuberculosis problem. Dr. Ringer's editorial is full of meat. "Read, mark, learn and inwardly digest" it—and you will have occasion to be thankful over and over that you have saved many a child from being handicapped with the life-long load of a *mistaken diagnosis of tuberculosis*, and many parents from endless anxiety and expense.

Morphine sulphate, in the form ordinarily administered, is not appreciably absorbed by the sublingual mucous membrane. The sublingual administration of morphine should be discontinued.

<sup>1</sup>Editorial in *Canadian Medical Association Journal*, February.

—Davis and Ayman in *Arch. Int. Med.*

## DEPARTMENTS

### HUMAN BEHAVIOR

JAMES K. HALL, M.D., *Editor*  
Richmond

#### THE GOOD HEALTH OF LARGE CITIES

A few nights ago I asked three intelligent and well-informed persons to give me their opinions about the most wholesome place in the United States in which to live. Not one of them named a city. Their answers indicated the belief that good health is associated with the great open spaces—certainly with life in the country. Colorado was nominated; so also were Nevada, New Mexico and Florida. I was somewhat disappointed because North Carolina failed of nomination, since that state occupies first position in so many things, especially in the opinion of so many of her citizens. And my question was addressed to North Carolinians—all three of my listeners were born in that health-giving commonwealth. But—all three of my fair listeners were enormously wrong in their responsive guesses. The most healthful spot in the United States in which to live is—New York City. And London is just as health-giving. An editorial in the *Medical Journal and Record* for January 18, 1928, says so. And the editorial marshals figures in substantiation of such an unbelievable statement.

The Department of Health of New York City was established in 1866, and since that time the death rate in the city has not been so low as in 1927. The figures would indicate that tuberculosis is being brought under control. For example, in 1866 the death rate from tuberculosis was 376 per thousand inhabitants, and in 1927 the death rate from the same cause had been reduced to 75 per thousand people. The deaths of infants under one year had been brought in 1927 to the unbelievably low figure of 56 for every 1,000 babies born. Such a record had never before been approximated. In 1866 the general mortality rate in the city was 2,709 per hundred thousand of population; in 1927 it had been reduced to 1,180. The Metropolitan

Life Insurance Company began to keep statistics about tuberculosis amongst its policy-holders in 1911; at that time the death-rate amongst its industrial policy-holders was 224.6 per 100,000 every year. In 1927 the death-rate from the same cause amongst its policy-holders would scarcely go above 90 in 100,000 policy carriers. In New York City easily transmissible diseases are being brought under better control, and as a consequence the rate of death from such causes is being greatly lowered. The lives of thousands of infants are being saved. But—many of these infants are being saved from death as sacrificial material to rheumatic infection, heart disease, and kidney trouble in mid-life or in early old age. Deaths from such causes are increasing, and deaths from malignancy are increasing enormously.

It must be borne in mind that diagnostic facilities have improved since 1866, and that many deaths at that time ascribed to tuberculosis were undoubtedly due to other causes. In 1866 the tubercle bacillus was not known, and the diagnosis of the disease must have been often difficult. On the other hand, it is probably true that many malignant conditions in 1866 escaped detection. The x-ray is helpful today in the discovery of malignancy in deep-seated regions. More frequent post-mortem examinations today tend to make more accurate the assigned cause of death. And London is just about as wholesome a living place as New York. In these two cities there is probably a greater degree of crowding together of millions of human beings than the world has ever known before. But—these same people are probably better clothed, better fed, better housed, better entertained, and have more sanitary surroundings than such a vast number of people have ever had before. And there can be no doubt that the people of New York City—rich and poor—have the best medical attention that can be had today.

Country people are made to pay in sacrifices too big a price for their fresh air and sunshine. They are relatively poorly fed



upon a restricted dietary, with food that is often, is not generally, badly cooked. Often they are unseasonably clothed, summer and winter, and the housing is bad, as a rule. Bathing and toilet facilities are primitive, and sanitary arrangements are generally bad. The latter statements apply especially to the South. Country people living in the North or West would freeze to death if not well fed, well clothed, and well housed. A balmy climate often lacks the prick that causes activity.

But—we are going to be obliged to correct some of our notions about health and habitation. More than sunshine and fresh air are necessary for good health. The data referred to tends to show that people who live in a city, even in a large city under crowded conditions, are supplied with certain health-giving factors that country dwellers do not have. Lack of persistent medical care must be one of these factors.

---

## SURGERY

---

GEORGE H. BUNCH, M.D., *Editor*  
Columbia

### THE SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS

The treatment of pulmonary tuberculosis has ever been and continues to be essentially medical and consists of rest in bed, forced feeding and fresh air. Of these rest is most necessary and any procedure that tends toward mechanical and physiological rest of the diseased lung is helpful. In the current issue of the *Journal of the American Medical Association* (Feb. 25, 1928) there is an instructive article by Gekler and Weigel on Intensive Postural Rest in the Treatment of Pulmonary Tuberculosis. In respiration the lung is passive. It is expanded by negative intra-thoracic pressure produced by outward excursion of the chest wall and by downward movement of the diaphragm. When the patient is made to lie on the affected side on a pillow made to fit the thorax they say "The muscles of the thoracic wall are not accustomed to working against a pressure equal to half the body weight and soon become so fatigued that all motion ceases. From this time on, while the patient is on the pillow, the upper two-thirds of the chest, where most

of the tuberculous involvement is found, is at absolute rest." In this position the mediastinum from the weight of the heart by gravity presses downward against the diseased lung and is helpful in maintaining rest.

There are several surgical procedures that may be helpful in putting the tuberculous lung at rest. The simplest of these is the injection of air or an inert gas (nitrogen) into the pleural sac about the diseased lung. This allows the lung to collapse and compresses it against the posterior mediastinum. Tuberculous cavities collapse and drain. Hemorrhage from the lung is checked and healing is promoted by the rest afforded. The gas is gradually absorbed, but as long as pneumothorax is present the affected lung is to that extent put out of commission and at rest. The patient in the meanwhile is dependent on the other lung for respiration. John B. Murphy was the first to recommend (1898) artificial pneumothorax in the treatment of pulmonary tuberculosis. He thought it should be used early in all forms of phthisis and that delay "is really a stigma of ignorance, timidity, and incompetence." He injected all the gas the patient could tolerate without dyspnea but kept his patient under the treatment for a comparatively short time. Murphy was a pioneer, and experience has proved his teaching radical. We now know that pneumothorax has its limitations in the treatment of the disease; that it is not without danger; and that indications for it must be positive. We know months, and even years, must pass in most cases, before healing is sufficient to make expansion of the collapsed lung safe. Minor aptly says that if Murphy had been as expert a phthisiotherapist as he was a surgeon he would have used a more judicious judgment in his selection of cases for pneumothorax treatment.

Lilienthal in his recent two volume work on thoracic surgery, describes an operation called "extra pleural pneumonolysis" for the treatment of tuberculous cavity in the apex. The parietal pleura over the apex is freed from its attachment to the thoracic wall and pushed from the wall toward the lung. The space thus made between the pleura and the wall is filled with a mass of fat or muscle to make sufficient pressure on the lung to cause the collapse and ultimate healing of the tuberculous cavity.



Respiration is thoracic and abdominal. The phrenic nerve supplies the diaphragm which is the muscle of abdominal respiration. Section of the phrenic causes a paralysis of the diaphragm on that side. "The paralyzed diaphragm is forced upward by intra-abdominal tension and downward by intra-thoracic tension." Section of the phrenic in the neck may be done under local anesthesia and is practically without danger. Phrenicotomy is of value in treating pulmonary tuberculosis. It may be used alone or as an adjunct to pneumothorax or thoracotomy.

The most striking surgical procedure in the treatment of lung tuberculosis is permanent lung collapse by extra-pleural thoracoplasty. The operation is major and may have to be done in two stages. Either a local or a general anesthetic may be used. The pleura, with the periosteum, is stripped from the inner surface of the upper 10 ribs on the affected side, and sufficient length of these ribs is removed to permit lung collapse. The disease should be mostly unilateral and of sufficient duration for the lung to be firm from the fibrous change in it. If adhesions have not universally bound the parietal to the visceral pleura the case should be treated by pneumothorax and not by thoracoplasty. Even after permanent lung collapse the patient still has tubercle bacilli in the lung and must remain under strict medical care until cured.

The final result in the treatment of pulmonary tuberculosis depends upon the skill and the experience of the physician in his selection of the proper treatment for the individual patient and upon the willingness of the patient to co-operate with the physician and to remain under his care until pronounced cured.

---

## PEDIATRICS

---

*For this issue, G. W. KUTSCHER, M.D.  
Swannanoa, N. C.*

---

### MORE ON THE UNDERWEIGHT SCHOOL CHILD

In the January issue of this journal a preliminary report was made of a study being carried out in the Swannanoa Consolidated Schools in an effort to reduce the number of underweight children in the schools. This

article will be devoted to the tabulation of further data gained since the institution of the study. Our results have been very satisfactory. It will be remembered that two separate groups were selected. The one receiving the treatment previously outlined is known as the "test" group and the other is known as the "control" group. During the first six weeks of the plan the test group has gained 31½ pounds while the control group has gained only 8¾ pounds in the aggregate. The mothers of the children have told us that they are pleased with the gain in weight of their children, but are more pleased with the change in the disposition, added "pep," and willingness to do what they are asked to do. These changes are what we first wanted and we feel certain that the increase in weight will follow. To simply strive for a gain in weight and have no regard for the other side of the child's life would be unreasonable. Further comparative figures show that the three greatest gains in weight in the test group have been 6 pounds, 6 pounds and 4½ pounds, while in the control group the three highest gains have been 1¾ pounds, 1½ pounds and 1 pound. In the test group only one child has failed to gain and in the control group three members have failed to gain, one having lost weight.

We feel that any real progress made can be attributed to the removal of one of the most prominent causes of malnutrition in the school child, namely, school strain. During the third week of the study the children began to fall asleep during the school rest hour. At present some of them go to sleep as often as four times a week. Seldom a day passes that some individual does not remark to the teacher, "Is the time up so soon?" when the rest hour is over. This signifies to us that they are in need of the relaxation which the hour on the floor affords. When they fall asleep it means to us that they are overtired and need the sleep at this particular time of the day. Discipline during the hour is needed less each day, for the children are interested and have by now learned to realize the advantages of good behavior and rest.

One mother has remarked that she was well pleased with the results even if her child had not gained a single pound. She notices this change in her boy. He now comes home from school, changes his clothes, and is anx-

ious to get out doors to play until time for supper. He is willing now to do his home chores without argument. Previously he would come home tired-out from his school day, throw his books in a corner and crawl on a couch to sleep until supper time. After supper he was too irritable to study and as a result was slipping back in his school work. The greatest fault with this particular child was his chronic fatigue. He was tired constantly and never seemed to become rested. He arose each morning with a steadily increasing burden because his night's rest had not restored his tissues from the strain of the previous day's fatigue. Now he is keeping up with his classmates in school and takes a great deal more interest in his daily activities.

Aside from the increase in weight in her girl one mother takes the vain side of the question to discuss its merits. This little girl had a tired expression on her face which is now gone. The change really is very noticeable even to her friends in adult life. Her gain in weight is not startling, but this child is one of the most enthusiastic members of the class. She is drinking nearly two quarts of milk per day in an effort to win the prize offered for the greatest gain in weight for the week.

Space does not afford the further discussion of the individual members of the class and their problems. Some changes in the program have been made since the presentation of the preliminary report. A big time is made over the weekly weighing of both control and test groups. Each child is permitted to place his own red star on his own chart each week for doing each of the chores required of him. Being allowed to place his own star adds much to the interest of the contest for each child. In this way they seem to be rewarded much more than if someone else placed the star on the chart for them. The individual who gains the most weight during the week is allowed to place a gold star on his chart. The gold stars count five points and the red stars count one point. Every two or three weeks a separate prize is offered to the one who does best some certain feature of the program. In this way the interest is kept up to a high point among the children. The reporting of the carrying out of the chores is left up to the child's

honesty. We feel that this is the proper time to help the child realize that he must be truthful. We have learned not to be afraid of them telling falsehoods, for the minute a falsehood is told some other member of the class usually denies the statement so the perpetrator of the lie usually has to correct his statement. Every child seems to be his brother's keeper. It is intensely interesting to overhear them telling each other why they failed to gain in weight or to get the prize offered. Some of the remarks made are very instructive. Everyone knows by now what he must do and when he fails to do it he usually resolves to do better next week.

You will notice that each requested chore is something which the child can do himself without the aid of the parent. All the parent is requested to do is offer encouragement to the child. This idea was planned to teach the child to properly care for himself through suggestive health chores. Many other requests could have been made but we feel that enough has been asked for the time being. Next year we are planning to carry out the program on a larger scale and more chores can then be asked of the child.

The final report on this study will be made following the end of the school year, which is in April. At that time we hope to have a detailed report of each and every phase of the program.

---

## EAR, EYE, NOSE AND THROAT

*For this issue* H. L. SLOAN, A.B., M.D.  
Charlotte

---

### PERSONAL OBSERVATION ON TUBERCULOSIS OF THE EYE\*

(Kiefer, H. A., M.D., and Shulman, L., M.D.)

"Tuberculosis of the eye is a far more common affliction than is generally recognized." "The fact is that not a structure of this organ is immune to tuberculosis; and perhaps nearly one-third of all non-traumatic inflammations of the uveal tract are tuberculous." These opening sentences in an article under the above title would seem to emphasize the importance of ocular tuberculosis.

---

\*Transactions of Section on Ophthalmology, Amer. Med. Assoc., 1927, p. 128.

The diagnosis of ocular tuberculosis, according to these authors, will often tax the skill of the most expert, and affords frequently the best opportunity for team work by the oculist and the tuberculist. Consequently this disease is frequently misdiagnosed. Without diagnosis and the proper use of tuberculin many of these patients are doomed to blindness. And with the use of tuberculin many cures result. (This is the testimony of Wilmer, Jackson and many others.)

Infection may take place by lodgement of the bacilli on the bulbar or palpebral conjunctiva; by distribution by the blood stream; by distribution through the lymphatics; by direct extension from neighboring parts; and by traumatic injuries.

There are many pathological conditions of the eye from which tuberculosis must be differentiated. To quote from Kiefer and Shulman:

"In a general way it may be said that after tuberculin injection a rise of temperature denotes the presence of tuberculosis somewhere; a focal reaction in the eye points directly to a tuberculous eye infection; but a focal reaction does not always occur when tuberculosis does exist. How, then, can a reaction like that of pirquet be of value? Suppose that a case of inflamed eye presents itself, a keratitis or an iritis which has resisted all ordinary forms of treatment; the history and wassermann test do not throw light on its etiology; an expert chest examination either does not reveal tuberculosis or shows completely healed lesions; the eye is the only organ showing any inflammatory symptoms; the pirquet reaction is positive; focal reaction is not present in the eye. By the process of exclusion, it is pretty evident that one is dealing with a tuberculous eye case, the latter being responsible for the positive skin reaction. If, now, this patient is put on tuberculin treatment and the eye shows marked and rapid signs of improvement and healing, the diagnosis has been pretty well proved."

A careful general examination is recommended in every instance. Detre's differential cutaneous test, with daily examinations for four days, is used. Von Ruck's vaccine is used for treatment; the initial dose of which is often as small as one-millionth of a milligram. The injection, repeated at inter-

vals of once a week, may reach a maximum of three milligrams, or may only go as high as 0.001 milligram. When all symptoms have disappeared or become stationary, treatment is discontinued. This varies from three to eighteen months.

The main conclusions reached are: Many cases of ocular tuberculosis are not diagnosed as such. A very careful physical examination should be made in all questionable cases. Tuberculin furnishes one of the most valuable aids at hand in both diagnosis and treatment of ocular tuberculosis. The oculist will obtain better results by placing his tuberculous eye cases in the hands of the tuberculist, for the administration of the tuberculin. Tuberculin should be used in conjunction with other treatment. The type of case suited for tuberculin therapy, the dosage, and other details must be carefully ascertained in each individual patient, if satisfactory results are to be expected.

The details in management of seventeen cases are cited in support of the conclusion of the authors.

---

## ORTHOPEDIC SURGERY

---

O. L. MILLER, M.D., *Editor*  
Charlotte

### TREATMENT OF FRACTURES OF THE OS CALCIS BY ARTHRODESIS OF THE SUBASTRAGALAR JOINT

A fracture of the os calcis is a serious surgical condition under any circumstances. The potential disability following such an injury is a major one. Any practical suggestion added to the usual scheme of management of these fractures should be welcome.

During the past few years the method of treatment referred to here has been gaining in favor. The experience of Wilson of Boston, as brought out in the *Journal of the A. M. A.* under date of November 12, 1927, is given to show what appears to be most favorable results obtained by the operation of subastragaloid arthrodesis in both old and recent fractures of the os calcis.

"The analysis of the results in the author's twenty cases shows only one failure referable to the method of treatment, and even in this one case the failure is to be ascribed to faulty technic rather than to a failure of the

method itself. In none of the cases did the operation fail to achieve a bony ankylosis between the os calcis and the astragalus. By far the best results were obtained in the cases of recent fracture, the average post-operative disability period for this group being five and one-half months, as compared with nearly eight months for the old fractures. This difference is to be expected and is a measure of the lowering of morale which is a natural consequence of prolonged disability.

Of interest to insurance companies is the difference in cost when arthrodesis is performed early instead of late. I have been able to secure the actual figures in two cases which were referred by the same company. The first came under observation early and operation was performed eleven days after injury. The total period of disability was twenty-one weeks and six days. This case cost the insuring company \$739.00, of which \$393.00 represented medical expenses, and \$346.00 compensation at the rate of \$16.00 a week. In the second case arthrodesis was done thirty-eight weeks after injury, and the total disability period was seventy-five weeks. The cost to the company was \$1,703.00, of which \$503.00 was for medical expenses and the remainder compensation. These were average cases.

"The operation of subastragalar arthrodesis is a standard procedure and does not require special description. Following operation, the foot is immobilized in plaster extending to above the knee. Care is necessary to see that the foot is fixed in a good weight bearing position. In order to make sure of the position, it is wise to apply a new plaster at the end of from two to three weeks, when less padding is necessary. The plaster is shortened to below the knee at the end of four weeks. Plaster fixation is continued to the end of eight weeks, but weight bearing in the plaster is permitted at the end of six weeks.

"The guiding motive in my investigation has been to find some procedure which could be applied to the fresh fracture soon after injury; which would lead to a strong, useful and painless foot without prolonged disability, and which could be depended on to produce this result in nearly all the cases. The disappointing results from attempts at reduction, the almost constant observation of in-

volvement of the calcaneo-astragalar joint by the fracture, and the appreciation of the importance of articular incongruity and traumatic arthritis in the production of disability represent the guide posts which point to the necessity of fusing this joint by operation as a means of solving the problem.

"It may be asked, is not the disability which is created by ankylosis of the calcaneo-astragalar articulation as disabling as the condition from which the patient originally suffered? The best answer to this question is that irrespective of the method of treatment used there will be no great amount of motion in any cases. My own experience in this respect is confirmed by the observation of numerous authorities. Actually, the disability due to ankylosis of the subastragalar articulation, provided there is good weight bearing position, is scarcely recognizable. The tarsal joint develop compensatory hypermobility which gives a fair semblance of lateral motion and heavy work can be done without complaint.

"In treating fractures, the important thing as regards the reduction of disability is to be able to look ahead and to anticipate future difficulties before they arise. In recent fractures of the os calcis, with serious involvement of the calcaneo-astragalar articulation and distortion of the joint surfaces, I believe that there is sufficient certainty of future trouble to warrant arthrodesis of this joint, with correction at the same time of as much of the fracture deformity as possible and fixation of the foot in the best weight bearing position. In my opinion this offers the best chance of avoiding prolonged disability and restoring the worker to his old occupation in the minimum time.

In cases of old fracture with continued pain and unsatisfactory progress, I believe that the cause of the disability is usually to be found in a traumatic arthritis resulting from a disruption of the subastragalar joint. If the evidence obtained from clinical and roentgenographic examination warrants this diagnosis, then relief of the condition is to be obtained by the operation of arthrodesis. At the same time all bony irregularities at the lateral aspect of the os calcis should be removed."



## UROLOGY

For this issue, HAMILTON W. McKAY, M.D.,  
Charlotte, N. C.

### THE BACKGROUND FOR SOME INFECTIONS OF THE URINARY TRACT OCCURRING DURING PREGNANCY

Pyelitis, pyelonephritis or pyonephrosis are pathological conditions of the urinary tract that cause symptoms varying in degree. Sometimes these symptoms only amount to pain and discomfort to the patient, at other times either of the three may terminate fatally. What happens when one of these urinary conditions occurs during pregnancy?

Take for example a woman four to six months pregnant with pyuria (from catheterized specimen), chills, and a temperature range of 102 degrees to 104 degrees F. with or without sweats. The patient presents a clinical picture of a well-defined toxemia and appears quite sick and still more uncomfortable. The husband and family become alarmed and press the attending physician for a diagnosis. If the patient has escaped the diagnosis of malaria, a urinalysis (voided specimen), may be ordered examined which will not give the desired information. At this stage of illness enters the obstetrician. He orders a catheterized specimen of urine examined, possible orders a culture, and offers the accustomed diagnosis of pyelitis of pregnancy, which may be correct, but does not express the real pathological condition as it exists in the urinary tract. Is it entirely correct to surmise that the pregnancy alone is responsible for the urinary infection, or has the stage been set and the ground already prepared by some pre-existing condition which might have been present in infancy?

Compression and dislocation of the pelvic ureter with congestion and swelling of the mucosa of the ureters and bladder caused by pregnancy are familiar theories to all who have studied the subject, but none of them has been accepted as the sole cause, and all have been attacked and criticised.

It is my desire to call attention to some of the pre-existing conditions which may and do occur in the urinary tracts of female infants and adults and which *antedate* pregnancy. Any of the anomalies which interfere with drainage as, aberrant vessel at the

uretero-pelvic junction, double kidney with Y ureter, stricture of the ureter, impacted stone in the ureter, may be predisposing causes of serious complications of the urinary tract during pregnancy.

A brief report of two cases recently seen by the editor will serve to emphasize the fact that abnormalities of the urinary tract have to be considered as factors in causing complications of the urinary tract *during* pregnancy.

The first case, a girl of five years, who had a recurrent right pyelonephritis since nine months of age. She would run as many as 200 to 300 pus cells to a high power field, with blood cells, albumin and casts. Right uretero-pyelogram showed an anomalous arrangement of the calyces with a narrowing of the uretero-pelvic junction. The urine of the right kidney shows 3 to 6 pus cells to high power field, with streptococci and bacilli coli; no pus or growth from the left kidney. This child had repeated attacks of right-sided colic and it was almost impossible to say at times whether she had an acute appendicitis or kidney colic. Under ureteral dilatation and pelvic lavage she gained eight pounds and was free from kidney symptoms for practically a year. I am sure no one would argue that a condition like this would not complicate pregnancy.

Case two, a young woman, aged 20, six months pregnant, entered the Charlotte Sanatorium with a temperature of 102 degrees and with a marked toxemia. Catheterized specimen of urine showed an abundance of pus with many clumps, albumin and numerous bacilli. She had been sick for two months, having been taken with pain over left kidney and high temperature. She had been treated by her attending physician for six weeks for a pyelitis of pregnancy.

Cystoscopy and continuous drainage of the kidneys did not relieve the acute condition and the patient steadily grew worse. The consulting obstetrician induced labor after the patient had been transfused twice. She had a rather stormy recovery but left the hospital in good condition. Complete urological examination showed double kidney on the left side. The two pelves did not communicate. A Y ureter with junction about 2½ cm. (1 in.) below the uretero-pelvic junction of

the lower pelvic. The uretero-pyelogram showed it was impossible to drain the upper kidney. Certainly the pregnancy was not entirely responsible for the urinary complication in this case but was a contributory factor.

---

## RADIOLOGY

---

JOHN D. MACRAE, M.D., *Editor*  
Asheville, N. C.

---

### PROTECTION IN X-RAY LABORATORIES

The danger in radiological practice has increased as higher power machines and x-rays have come into use, but methods of protection have been developed along with this advance.

Insurance companies have increased their rates to radiologists out of proportion to the hazard which attaches to the practice of this specialty. Some physicians are unduly afraid of the effect of x-rays on themselves and their patients.

The physicians and insurance companies who are afraid of x-rays are laboring under the knowledge which we had fifteen or more years ago. The martyrs to science who suffered injuries from exposure to x-rays before that time they remember, and they are not conscious of the safeguards and better knowledge which control the practice of modern radiology.

At the present time the operator or patient in a well equipped x-ray laboratory is safe from harm, except that resulting from ignorance or carelessness. It is the business of the radiologist to understand what protection is needed and to see that it is furnished to himself, his assistants and his patients.

The things to be guarded against are electrical shocks and x-ray injuries, both acute and chronic.

In the first place any conductor of high tension electricity is dangerous if individuals may come in contact with it. All such conductors must be placed as far as possible from the patient. Any x-ray apparatus, badly installed, is dangerous. Even a slight discharge of electricity to the patient may produce nervous shock and a heavy discharge through the patient to the ground may prove fatal.

Spectators and visitors, without business in the x-ray operating room, should not be al-

lowed.

Metal shields used to limit the area exposed to x-rays may give off small annoying sparks to the skin of the patient. This is the result of a charge of static electricity induced on the metal sheet. It can easily be avoided by giving the metal shield firm contact with the skin or by separating it effectively from the skin by interposing a sheet of insulating material such as rubber tissue.

The real danger from electricity is to be avoided by not placing the patient that no discharge of current can reach the ground through him. Place the patient on a wooden insulated table for treatment or radiography, and a ground wire on the tube stand, so that if anything causes a current surge its resulting spark over will be to the ground through the stand rather than through the patient. A grounded metal plate between the patient and x-ray tube is a valuable safeguard, but under no circumstances must any part of the patient come between this grounded plate and the tube or any electrical conductor.

The strength of current is regulated either by rheostatic control or by being taken direct from an auto transformer. In the first instance the resistance in the electric circuit causes a rapid falling off of voltage when a "ground" is established through an individual or any accidental short circuit. Under this condition the danger is much less; but modern x-ray machines are made with the auto transformer method of regulating voltage. This device does not permit the strength of current to fall away in the presence of accidental short circuit. Manufacturers now place an automatic magnetic break in the primary circuit which operates to open the circuit instantaneously when a surge of current takes place.

Electricity accidents are spectacular and impressive. They occur in industries and trades, hence protection from them is understood by most people. X-ray injuries are slow in developing. They are so insidious that days will pass before patient or physician recognizes them. For these reasons protective measures are not always well planned and used. Moreover, a superficial x-ray dermatitis can be changed by stimulating treatment into a more serious condition. This is apt to be the case when the patient falls into the hands of one who does not understand.

The protection of patients from over-exposure to x-rays depends on the operators understanding of x-ray dosage and using approved devices for measuring.

The x-ray tube is surrounded by a lead box or lead glass bowl which permits rays to pass through a diaphragm to fall directly on the area to be treated. The skin surrounding this area is further protected by covering it with sheets of lead or lead-rubber. When doses of filtered x-rays are given, the leaving out of a filter may result disastrously, as will a mistake in time of exposure. The best means of preventing these mistakes is to adopt a system of checking and cross checking the factors making up a dose. The radiologist should write his dosage formula and call on his assistant to observe that the factors are correctly used in giving the dose. Then operator and assistant should write their initials on the record. I know no better method for preventing mistakes in dosage.

There are secondary rays filling the room where an x-ray tube is in operation. These are of little importance to the patient, who is getting a specific amount of radiation; but these secondary x-rays may produce dangerous chronic x-ray poisoning in operators whose constant exposure to them permits accumulative effects. Protection is had by placing a leaded screen between the active x-ray tube and the operator, or, if the most powerful x-rays are to be used and treatments carried on for hours every day, the use of a lead lined operating booth is advisable. What is even better, cover all walls of the treatment room with lead or its equivalent, and treat the patient from an adjoining room, observing him through a thick lead-glass window.

No x-ray operator should continue too long at his work without periods of complete removal from the influence of x-rays; say two weeks off during every six months and one-half day holiday and Sunday of every week.

The practice of placing one's hand between the x-ray tube and fluoroscope for purpose of testing the quality of the x-ray was discarded many years ago; but thoughtless operators sometimes demonstrate x-rays in this way for the amusement of patients or visitors.

The use of lead rubber gloves and aprons must never be omitted in fluoroscopic exam-

inations.

Operators who use fluoroscopy where a radiograph would yield the desired information should understand that films are cheap when compared with the harm to themselves from repeated x-ray exposures.

The question of personal liability insurance for physicians using x-rays has two sides. In the first place law suits are becoming more common and are brought on the least provocation; therefore insurance against suits seems to be absolutely necessary. On the other hand the fact that a radiologist carries such insurance is no doubt the reason why some damage suits are brought.

---

## INTERNAL MEDICINE

---

PAUL H. RINGER, A.B., M.D., *Editor*  
Asheville

---

### THE NONTUBERCULOUS CHILD

All of us doing general medicine have many times been face to face with the anxious mother bringing her child to be examined, and filled with the fear that tuberculosis is present. The establishment of a positive or negative diagnosis is of great importance. Many times children have been branded as tuberculous unjustifiably. The main points to be considered in arriving at a conclusion pro or con are admirably set forth by Dr. Joseph Brenneman of Chicago in a paper entitled "The Non-tuberculous Child," appearing in the *Journal of the A. M. A.* for February 25, 1928. Many of his sentences are epigrammatic—some deserve the title of aphorisms—all are pregnant with sound thinking and common sense.

Dr. Brenneman finds that there are in the main six reasons which make the mother fear her child may have tuberculosis of the lungs.

"1. The child is underweight (whatever that may be) and is, or is not, run down, easily fatigued, and lacking in 'pep.'

"2. He has a persistent cough.

"3. He has a persistent low-grade temperature slightly above the accepted normal.

"4. He has had a 'pneumonia' and still has a fever and pathological changes in the lungs.

"5. He has been suspected of having tuberculosis of the lungs by his physician and this suspicion has been confirmed by a positive pirquet test or a roentgen-ray diagnosis.



"6. He has been exposed to tuberculosis."

Dr. Brenneman takes up these points serially, but first stresses "the positive value of an examination of the sputum if it is positive, and the equally positive value of a pirquet test if it is negative. If the pirquet test is positive it tells us that the child has a tuberculous infection, but it does not tell us that that infection has any clinical significance or has any bearing whatever on the condition that brings the child for examination. In the older child the positive test may mean relatively little, but considerably more than it does in the adult. The baby with a positive pirquet test should be regarded as a tuberculous patient and if properly treated his chances are good if there are no other evidences of tuberculosis, even in the first few months of life.

It is important to note that "in making the test one must be familiar with the technique, and also with the fact that not all tuberculin is potent. A negative reaction can be accepted only if repeated, and if the material is of known potency."

*Underweight*, according to Dr. Brenneman, is a great variable and depends upon build, temperament, etc. He says: "Some children are 'skinny' because they are active, and active because they are skinny; others are phlegmatic because they are fat, or fat because they are phlegmatic \* \* the thin active child with a good appetite and a good color gets, but hardly requires a thorough physical examination. His very activity and lack of fatigue exclude a clinical tuberculosis. The child on the other hand that is thin and run down, has a poor color and appetite, tires quickly and is manifestly sick, requires most careful scrutiny as to the possibility of tuberculosis \* \*"

A *persistent cough* requires investigation. "Often the child will come with the story that he 'coughs all the time' or that he 'has had a cough for years.' Careful inquiry will commonly reveal the fact that instead of a continuous cough the child has had frequent spells of coughing, lasting from a few days to a few weeks or even a month or more. Further inquiry will often disclose that such attacks are ushered in suddenly by fairly high fever, a coryza or a sore throat, or a cervical adenitis or an otitis media, that leave no doubt that the child has had an upper res-

piratory tract infection \* \* \* the story of frequent attacks of cough over a period of years would lead me very strongly to lean away from a diagnosis of tuberculosis rather than toward it."

One of the most frequent causes of anxiety to the parents is the *persistence of a low-grade temperature*. Dr. Brenneman says: "I have myself had great difficulty in orienting myself as to what constitutes a normal temperature in a child. I find myself at one time quite concerned about a persistent temperature of 99 to 100 degrees by rectum, and again in a different clinical setting will find myself telling the mother to forget about it and to quit taking the temperature. In my experience a fairly persistent temperature of 99 to 99.5 degrees and even occasionally 100 degrees is many times more frequently due to some other condition than it is to tuberculosis. Such temperatures frequently occur after upper respiratory tract infections. I am free to confess that in the great majority of these cases I do not know the offending locus of infection if there is one \* \* \* \*". When such a temperature occurs in an otherwise apparently healthy child in whom I cannot find lung or other evident pathological changes, I dismiss the case with a mere warning. If a pirquet test is negative I dismiss it without a qualm. If, on the other hand, the temperature goes to 101 degrees, even on rare occasions, or if the pirquet reaction is positive, I put the child to bed as a sick child and search diligently for the underlying pathological condition with a real interest in the possibility of a tuberculous infection."

Dr. Brenneman stresses the unwisdom of requesting a roentgen-ray diagnosis purely on film interpretation at the hands of an individual who has not seen the patient and is unfamiliar with the clinical course or symptoms. It should be borne in mind that x-ray films of children's chests are most difficult to interpret. Some years ago the National Tuberculosis Association appointed a commission to adopt standards as to the normal in the x-ray of the child. This commission after exhaustive investigation reported that it was at present impossible to adopt a definite normal standard which would not be vitiated by the great variations in x-ray findings which subsequent study proved to be not definite pathological findings. Borderline cases, from



the x-ray standpoint, are far more frequent in the child than in the adult, and many findings which would be confirmatory in the latter must be classed in the former as "not proven."

Dr. Brennenman, in considering the treatment of these children suspected of having tuberculosis, lays stress on the triad of factors forming the groundwork for the treatment of definite tuberculosis in children and adults alike:

1. Rest in bed
2. Food
3. Fresh air

He stresses them in the order above given. Rest is the greatest single therapeutic agent. If the child will eat he will get well. Coaxing and wheedling him into eating is next to worthless. Medicines are of no use, and climate is of no great value.

---

## THERAPEUTICS

---

FREDERICK R. TAYLOR, B.S., M.D., *Editor*  
High Point

---

### NOTES ON NEW PAGES OF OXFORD MEDICINE

Last month in our editorial, we announced that we would take up the recognition and treatment of the various arrhythmias, not knowing that Dr. Kinlaw, of Rocky Mount, was preparing his excellent paper on the subject. To take up this topic again so soon would seem altogether superfluous. Within the last week or two a number of new pages have come out in the *Oxford Medicine* of sufficient interest to note here.

Dr. Lawrence Henderson's chapter on Acidosis has been revised by Dr. John P. Peters under the heading of the Regulation of the Acid-Base Equilibrium. The early part of the chapter is interesting, but most of it is entirely too technical for the ordinary reader, being expressed extensively in rather complicated logarithmic formulae, which we do not pretend to understand.

Dr. Minot, revising his chapter on the anemias, develops his liver treatment of pernicious anemia in splendid fashion. He states that a liver fraction should be available early in 1928, and this is now being advertised to the medical public, and would seem to be the ideal treatment for this disease, along with certain adjuncts, notably ultraviolet rays and

perhaps eosin, though Minot does not mention eosin. He gives a number of interesting recipes for preparing liver in palatable fashion, and notes that almost any mammalian liver and perhaps chicken liver can be used effectively.

Col. Craig revises his great classic on malaria, and it remains an encyclopedic classic of the first rank on that infection concerning which medicine has more detailed knowledge, perhaps, than it has of any other.

Two entirely new chapters are presented; one on Food Poisoning by Wm. G. Savage, and one on Glandular Fever or Infectious Mononucleosis by C. G. Guthrie. Both are extremely interesting. There is all too little in the literature on Glandular Fever, a disease which we have seen as a "house epidemic" attacking nearly all the members of a family, yet which few doctors seem to know exists. We strongly recommend the careful reading of both these chapters. Savage clearly shows that most cases of food poisoning are due to various strains of the salmonella bacillus. Botulism is not included in his article, but is dealt with separately.

The various metazoan infection chapters are extensively revised, treatment being included. This was left out of the original chapters—a strange omission when we have specifics for so many worms. A "mixed treatment" for hookworm disease is suggested which is new to us, which we quote here, as it seems worth considering. It is given in the chapter on Nematodes by Tyzzer and Smillie as follows:

"*Mixed treatment.* The most effective and safest treatment for hookworm disease is a mixture of carbon tetrachlorid and ascaridol, or an equivalent amount of oil of chenopodium. (Ascaridol is the active principle of oil of chenopodium, and would seem superior to it). One drug supplements the action of the other and therefore sub-toxic doses of each drug can be administered with very good results. A good method is to give a mixed treatment of three parts of carbon tetrachlorid and one of ascaridol, as

"7 a. m. Give 1.5 c.c. carbon tetrachlorid on an empty stomach.

"8 a. m. Give 0.5 c.c. ascaridol or 0.75 c.c. oil of chenopodium.

"Doses for children should be graded according to apparent age."

The authors consider thymol of historic interest only, in this disease.

---

## OBSTETRICS

---

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville,

---

### PYELITIS COMPLICATING PREGNANCY

In considering pyelitis it may appear to some of our physicians that it is unnecessary to discuss it in pregnancy. In reviewing the literature in the text books on pregnancy and the genito-urinary tract the space given to pyelitis is not very great. Many physicians, therefore, get the impression that it is not a condition that is frequently observed. Our interest is the welfare of expectant mothers and because of this we are justified in discussing pyelitis which is a common occurrence during the period of pregnancy. Even now many cases of pyelitis are being missed, and treatment for other infections instituted when a simple urinalysis would reveal the trouble. For a patient to run along over quite a period and have a disturbance of the genito-urinary tract and to be continuously taking medicine for other troubles is not satisfactory. If the condition is left alone great damage may be done to the kidney itself; also labor may be brought on spontaneously before term and the child may die. Too, during the period of labor and puerperium the patient may develop an infection which is secondary to pyelitis and which is very distressing and disturbing to the physician, patient and immediate family.

It has been impossible to find in literature the frequency of pyelitis in pregnancy; but, if the family physician will make a routine study of kidney specimens, he will find a good many cases of very mild pyelitis and other cases that are between the mild and very marked acute cases. Also, he will find a good many acute cases of pyelitis which are very difficult to treat. There is a real need for all family physicians to study urinalysis with one object in view of learning more of pyelitis and how to prevent it.

The symptoms of pyelitis may be divided into three groups. First, the simple mild case where you have practically no temperature, frequent and painful urination with no swelling or headache. In the second group you

will have elevation of temperature, maybe a mild chill, discomfort in the back and in the region of the kidney, headache, very slight upset condition of the stomach, dysuria and polyuria, some swelling of the lower extremities. In the third group, which is a marked acute condition, you have frequent chills and elevation of temperature, nausea and vomiting, more or less marked pain in the region of the back, pain may be greater on one side than on the other, pain in the region of the bladder due to secondary infection of the wall of the bladder, dysuria and polyuria, rapid pulse, complete loss of appetite, marked swelling of the lower extremities and possibly upper extremities and possibly slight swelling of the trunk. The skin may give a kind of yellowish appearance, and there may be some yellowing of the eyes that will make one think that patient has gall bladder disease. This third group is a very disturbing one and it may be difficult at times to determine just what is the best thing to do. The finest thing to do would be for the family physician to prevent the third group from appearing on the scene.

The causes of pyelitis at the present time have not been satisfactorily worked out. Some think it is due to the condition in the pelvis, the uterus pressing down on the ureter, damming back the urine in the pelvis of the kidney, causing a stagnant condition and this stagnation bringing about an inflammation of the pelvis of the kidney. This of course is a mechanical cause and it may be one of the common things that produce pyelitis; another would be an infection direct in the pelvis of the kidney. There may be a stricture of the ureter which causes a damming back of the urine in the pelvis of the kidney. Stricture of ureter causes pain. Also, the ureter may be blocked by a stone, which would cause a damming back of the urine in the pelvis of the kidney, which condition would produce pyelitis. Another cause which is a long distance from the kidney no doubt appears, namely, infected tonsils, infected sinus, and infected teeth. Perhaps these are the more common causes that we as family physicians may encounter in pregnancy, and in time we may find other things that produce pyelitis.

The diagnosis of pyelitis may be made for the most part in the following manner: Ex-

amination of the urine shows trace of albumin which may be very slight or very heavy, abundance of pus cells. Usually there is a tenderness in the region of the kidney involved. This tenderness may follow the line of the ureter on the side involved. Patient may have chills and fever. We can always for the most part rule out appendicitis which may be confused with pyelitis by the proper laboratory examination and the proper physical examination.

The treatment of pyelitis, whether the first, second or third group, is practically the same. The patient should be put to bed and watched very closely from the standpoint of study. While in bed she should be relieved of all responsibilities and given absolutely rest. There should be a thorough evacuation of the bowels each day; the patient should be put on a bland diet, abundance of water, a glass every hour would not be too much; acriflavine, one or two tablets given every four hours followed by two glasses of water; each day a specimen of urine should be examined to note the progress of the patient. This simple plan of treatment is for the most part very satisfactory. There will be other cases very extreme in character which will not respond to this simple treatment. The wisest thing to do is to have a urologist give the pelvis of each kidney, or the kidney involved, a lavage as often as he thinks necessary. Every now and then we have some of these cases which will not respond at all to treatment and develop such extreme condition until it is necessary to call a consultant and decide whether or not the pregnancy should be interrupted or allowed to go on to term. In pyelitis we usually have a secondary condition, namely, cystitis. Of course, any of these cases of cystitis must be treated along with the pyelitis.

The pregnancies which have to be interrupted in cases of pyelitis will be very few, but those that have to be interrupted should have the advantage of one or more consultants and then the method of interruption should be the very simplest, and during the period of interruption patient should be watched most carefully. The family physician cannot be at all lax in managing this third group of pyelitis.

## GYNECOLOGY

CHAS. R. ROBINS, M.D. F.A.C.S., *Editor*  
Richmond,

### THE GYNECOLOGICAL EXAMINATION

It is well to repeat at this point that the purpose of the history and of the examination is exclusive as well as inclusive. We have to constantly bear in mind that the symptoms complained of, although apparently pointing to the pelvis, may have their origin in some part quite remote. The examination, therefore, should commence at the head and include the tonsils, teeth, thyroid, glandular system, heart, lungs, pulse, etc. The worst examination that can be made is one that claims to be complete and is incomplete. We have to be able to say when we get through not only what the patient has but what she has not. Routine examinations should be made likewise, and for the same reason, of the blood and urine. In this way many points of great importance in the summing up of the case may be brought up, and embarrassing mistakes avoided. It would be quite unfortunate to operate on a patient for a gynecological condition which did not threaten life, when real jeopardy lay in another and overlooked quarter. The gynecological examination then becomes only an added examination directed to special organs.

*Abdomen*—The first examination after the general should be directed to the abdomen. This is particularly of importance because many abdominal conditions involve the pelvis and many pelvic conditions extend into the abdomen. The patient should lie comfortably on her back exposed to the skin from the breasts to the pubes. The breasts are examined for possible lumps. The abdomen should then be gone over throughout by palpation, commencing above the pubes and extending upward on the left side and down on the right, making a careful search for tumefactions and tender points. The various organs should be outlined by palpation and percussion, any lumps found should be outlined and origin ascertained. Especial attention should be devoted to pelvic tenderness, the appendix, gall bladder and kidneys. If any tumor is found in the lower abdomen it can be ascertained if it is of pelvic origin by determining if there is a sulcus between it



and the pubes. If the fingers can be insinuated between the tumor and the pubes it is of abdominal origin, if not of pelvic.

*Vulva*—The patient should now be placed with the buttocks exposed and brought down over the edge of the table and the feet supported in stirrups. An examination can then be made by inspection and palpation. It is well to have a Brinkerhoff speculum and examine the anus carefully for evidence of hemorrhoids and fistula. The perineum and sphincter ani should be examined for laceration; it should be noted whether the perineum closes the vagina or the vagina is patulous, whether there is cystocele or rectocele, and whether the cervix is abnormally low or presenting. Particular attention should be paid to the presence of leucorrhea and its character, and to infections, particularly gonorrheal. If gonorrhea is present the urethra is usually involved and pus may be milked from the urethra. If any is present a smear should be examined for gonococci.

*Speculum*—A bivalve speculum is then inserted in the vagina and the cervix noted, especially with references to lacerations, erosions, enlargement, hardening, cystic degeneration, ulcers, granulations and possible cancer.

*Bimanual*—While this position is maintained the bimanual examination is made. The patient is directed to open the mouth slightly and breathe through it as if sighing. This relaxes the abdominal muscles and facilitates the examination. One or two fingers are introduced in the vagina and the cervix and external os identified. The size, consistency and contour of the cervix is noted. Then, making pressure with the other hand on the abdomen, an effort is made to engage the uterus between the two hands, when its size, shape, consistency, position and mobility are noted. The ovaries and tubes are then located and the same features ascertained. Do not be disappointed if the normal tubes cannot be palpated. This is only possible in very favorable subjects. Tubes that can be palpated are usually pathological.

*Standing Position*—Certain information can be secured only in this position. If there are symptoms or signs pointing to prolapse of the uterus, the true position of the uterus can only be ascertained when the patient is

in the position in which the prolapse occurs. The patient is draped and stands with feet slightly apart. A finger is introduced in the vagina and position of uterus noted. Perhaps it may be found protruding from the vagina. Perhaps the uterus is retrodisplaced. All of these things can be noted, and the patient is directed to strain down, and it is noted if any of the conditions are increased. While the patient is standing it should be noted if the abdomen is pendulous or well supported. If the patient has complained of backache, as so many women do, it is important to determine if it is due to a pelvic condition or if it is due to muscular relaxation and back strain of various sorts. This is easily done by placing one hand on the sacrum and the other over the lower abdomen and bringing the hands together in a supporting manner for the lower abdomen. This will often afford marked relief of symptoms complained of. If the patient says it makes her feel better and gives her a feeling of support, the trouble is with the muscles and ligaments and not in the pelvis. What she needs is an iliac girdle and not an operation.

This is, of course, merely an outline of an examination and a routine to be followed. It would not be feasible to make it complete. If, however, the physician will follow up his findings by reference to a recent good book on gynecology, he will be surprised to see how quickly he will secure a working knowledge of gynecological diagnosis. Each case illustrates every other case and he will have opened up a large field from which many symptoms arise in women. It is hardly fair to the patient to examine everything else except the pelvis, when often that is the seat of the pathology.

---

## NEUROLOGY

---

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston

---

### SYPHILIS OF THE NERVOUS SYSTEM

Of the many manifestations of the invasion of the nervous system by the ubiquitous spirochete, paresis or (to give it its more formal name) general paralysis of the insane, is the most spectacular, and at present, most talked-about. Its prominence in contempo-



rary medical writings is due to the fact that there has recently sprung into favor a rather startling, and perhaps relatively effective, method of treatment. This is of course the malaria treatment. A large and well controlled series of cases reported from every part of the world indicates that the treatment is highly worth while. It will take some time, however, to decide whether the "cures" are really cures, or merely long continued remissions.

Paresis is an interesting disease. There are many puzzling paradoxes connected with its position as a syphilitic phenomenon. Since the discovery of spirochetes in the brain of a paretic, it has been accepted, without cavil or question, that paresis is merely an extensive syphilis of the brain. The serological picture in paresis is more definite than in any other type of neuro-syphilis. The Wassermann reaction is positive in practically 100 per cent of cases. Likewise the colloidal gold curve is typical. A moderate increase of lymphocytes is almost constant. The histologic picture is likewise typically syphilitic. It is an extensive meningo-encephalitis.

In spite of this adherence of paresis to the typical picture of syphilis of the brain, the usual anti-syphilitic remedies are almost useless against it. Indeed it has been soberly said, by not a few competent observers, that the downward course of paresis may be hastened by salvarsan, mercury and iodine. Here then is a queer state of affairs. Meningo-vascular syphilis and paresis often simulate each other clinically. They are pathologically to be considered as the invasion of different parts of the nervous system by the same organism. And yet the treatment which almost always helps, and sometimes changes as by magic, the one, has no effect on, or even intensifies the other. It is not my purpose to even indicate the various speculations which have undertaken to explain these facts. They are only speculations. It is of some interest, however, to consider how the unquestioned efficacy of the malarial treatment bears upon this question. If the malarial reaction does not act as a spirocheticide then its work must be accomplished by affecting the resistance of the tissues. In other words one of the factors of immunity is strengthened. A recent interesting report tends to support this point of view. A man

with paresis had never had a skin lesion other than the primary sore. Some few weeks after the malaria treatment, although clinically he was improved, there appeared on his leg, a typical skin syphilitic lesion. The idea was advanced that the malaria treatment had increased his immunity mechanism and thereby allowed one of the usual manifestations of general syphilis to appear.

Another and simpler explanation of the benefit of malaria states that it is the increased temperature of the body during the febrile paroxysm which either injures the parasite or aids the host. With this idea in mind other heat-producing agents have been utilized as other mild infections and the intravenous injection of foreign proteins. The value of these methods is not constant. In rat-bite fever, and Malta fever a few series have been reported and the good results almost parallel those from malaria. The foreign protein treatment has been empirically employed for many years. Its position as a worthwhile endeavor is rather precarious.

It is only just to the chemical spirocheticides to mention that one arsenical, tryparsamide, first used against African sleeping sickness, is unquestionably effective. Its good results are very nearly equal to malaria. Why it should stand out from its fellows is hard to explain.

Immunity in syphilis is an obscure and mysterious phenomenon. It would indeed be interesting to have light thrown upon it by the results and reactions of an empirical and bizarre type of treatment. It is hard to estimate the widespread benefit which would accrue to mankind if immunity against syphilis could be artificially produced.

---

The elimination of phenolsulphonphthalein in normal persons is greater (10 to 13 per cent) in the recumbent posture than during standing. The possibility that the difference might be greater in cardio-renal disorders is pointed out.

—Cordero and Friedman in *Arch. Int. Med.*

## OUR ANNUAL MEMORIAL SERVICE

### Dr. J. Howell Way

By CYRUS THOMPSON, M.D.

Jacksonville, N. C.

Mr. President and Members of the Tri-State Society: I have not a thing written, sir, to say about Dr. Way. I had expected, sir, when the State Society in North Carolina meets at Pinehurst the last of April that I might say a word or two in due form. The secretary wired me only a few days ago that I would be expected to say something in memorial of Dr. Way on this occasion; but I did not know, sir, until I had the program, that the whole matter of a memorial to Dr. Way was devolving upon me. Therefore whatever I may say will be on the spur of the moment or, as we sometimes say, offhand. I will give you in just a few words my estimate of J. Howell Way. I have known him since 1904. He was president of the State Board of Health from perhaps 1911 on to the day of his death. I went on the State Board of Health in 1913. At the time I went on the State Board of Health I was not very kindly disposed toward Dr. Way, and Dr. Way was not very kindly disposed to me. We served on the board all the years following after; we served without a jar; I was loyal to him and to all his efforts for the upbuilding of public health in North Carolina. Mr. President, as the years went on a sort of freemasonry between gentlemen grew up between Howell Way and myself. One day he said to me: "Thompson, you know it, but I am going to tell you, nevertheless; when you came on the board I did not like you." And I said: "When I went on the board I did not like you." "But," he said, "you have stayed on the board and now I have grown very fond of you." I said: "I have stayed on the board and I have grown very fond of you." He said: "Thompson, the reason I didn't like you was because I didn't know you." And I said: "Way, the reason I didn't like you was because I didn't know you."

Only a few days ago I was down in the city of Wilmington and a friend of mine in

the profession spoke to me. He spoke rather unkindly of J. Howell Way. I said: "Don't speak that way about him; he was not anything like that. You just didn't know him." He said: "I always looked on him as a politician." I said: "Well, he was something of a politician, but a politician is not necessarily a bad man; for ten years of my life I was a politician." He was one of the most ambitious men, he was one of the proudest men I ever saw; he loved the limelight, J. Howell Way did, as perhaps no other man you ever saw; but all his ambition was for the best that was in the possibility of the medical profession in North Carolina for the state of North Carolina; if he was ambitious, it was not for Howell Way; it was for the state of North Carolina and for the people of North Carolina. If he loved the limelight it was because he felt what was true: there was in him the ability and the capability to do something for his community and for his people and for his state. I learned to love him; he was an aristocrat, Mr. President, as I am. That may amuse some of you when you look at me and say "aristocratic?" Theroetically, I am democratic; theoretically, Howell Way was democratic; but both of us had sense enough to know that the vast majority of men throughout North Carolina and the whole world are incapable of taking care of themselves and that the business of wise men is taking care of fools for the uplift of fools. and the preservation of the wise. He was one of the finest specimens of right-minded men in medicine and surgery that ever I saw. I would not have said that fifteen years ago, but I say it now; and he knew when he died that I had this estimate of him. He was a man of will, yes; he was a politician, yes. He did not go out into the fights in the society, but he always knew the men in the profession that were men of ability, and he counseled with them and said what ought to be done for the good of medicine and for the good of the state, and he put them forward to do it. He had energy. This man was a man of indomitable will, indomitable energy. He was not content to

be a practitioner of medicine, of general medicine, alone; he put his hand into everything that occurred in his community, in the affairs of business, and he lifted them up. One of the last things he did in his life was to make certain the establishment of a community hospital, the first in North Carolina, the county hospital in the county of Haywood, in which he lived his life. He was a unique character, a man that the medical profession of the state of North Carolina and the neighboring region could ill afford to lose.

I have said that he was full of energy. He was full of energy, full of will; he was aristocratic; he was aristocratic in the best sense of the word. Religious? Yes, always affiliated with the Methodist Church and active in its work. He was one of the men who years ago had a dream of building a great medical school in North Carolina; and when, as a director of Trinity College, he became a director of Duke University, one of the happiest things in the life of J. Howell Way was that by the beneficence of James B. Duke a great university and a great medical school were to be built in North Carolina and that by the providence of God he might live to see this great institution which is coming up for the good of the state of North Carolina and the state of Virginia and the state of South Carolina and all of the South—ambitious, like Howell Way; great, like Howell Way; not great for himself but great for the great mass of people. That was the kind of man that Howell Way was. I am proud that he was my friend; I am proud that I was his friend and that he knew it before he went into death's last deep obscurity. I do not know a man in the profession in North Carolina that could have been spared so ill as he, and he died and died practically a suicide. Why do I say it? When I and others of his friends saw, Mr. President, his failing health and went to him and said: "Here, Way, you are working overtime; stop and rest," he said: "I can't do it; I can't; I can't; I must work." After a while he got where he could not work; and he lay down and died, having lived a great and honorable, a glorious and magnificent life, in which there is nothing at all to be ashamed of and everything to be proud of. Would God that

we all might live a life like Howell Way's and lie down for his certain reward.

## Dr. Chas. V. Carrington

BY ROBERT C. BRYAN, M.D., Richmond

I knew Dr. C. V. Carrington for thirty-five years and during my professional life was more or less intimately thrown with him in almost daily contact. Dr. Carrington had a brilliant career at the University of Virginia. Graduating from that honored institution just at the dawn of modern medicine, when the prescribed course was only some two years, he immediately located in Richmond and shortly afterwards married Mrs. Percy Grant, to whom his devotion and affection was one of the outstanding characteristics of his lovable life.

Dr. Carrington was thoroughly interested in charitable work and was the physician to the Spring Street Home in Richmond for twenty years, where he was on call night and day for obstetrical work, receiving no other emolument than the consciousness and satisfaction of a work well done, and helping those who were not in a position to help themselves. For twelve years he was the surgeon to the State Penitentiary, Gov. J. Hoge Tyler having appointed him to this position. He introduced and was an early pioneer of sterilization of the habitual criminal, a policy which has been more recently adopted, apparently with good results, in California.

Dr. Carrington's personality was most charming; unusually handsome, meeting one always with a smile, the truest and staunchest of men, and perhaps likewise the sincerest champion of his associates when once he believed an injury to himself or to any of his friends had been consciously or otherwise perpetrated.

Dr. Carrington's devotion, attention and consideration of his patients made for him a genuine love which I have seen excelled in no instance, and I do not know but that these characteristics, so essential in the physician's life, of devotion, constant attention and genuine interest in the personal welfare of his many patients could not be simulated by the general practitioner as well as a desire for scientific attainment.



## Dr. W. P. Whittington

BY CHAS. C. ORR, M.D., Asheville

Dr. W. P. Whittington died at his home in Asheville, N. C., on January 4, 1928, aged 73. He had been sick only a few weeks, being in active practice up to that time. Dr. Whittington was born at Cane River, Yancy county, N. C., on December 21, 1854, the son of Dr. Benjamin and Margaret Whittington. He secured his early education at Weaverville College, near Asheville. He afterwards entered the College of Physicians and Surgeons at Baltimore, where he received his medical degree. He did post-graduate work in Boston, New York City, Chicago and Philadelphia. After his internship he located at Burnsville, N. C., where he practiced until 1889. He took an active interest in politics. In 1888-1889 he represented Yancy county in the State Legislature.

In 1889 he moved to Asheville, where he practiced medicine up to within a few weeks of his death. He was an active member of the Baptist church. He was a member of the Asheville Masonic bodies and took an active part in the work of the various lodges. He was a member of the Buncombe County Medical Society, Medical Society of the State of North Carolina, the American Medical Association and the Tri-State Medical Association.

Dr. Whittington spent the best years of his life in useful service as a physician and citizen of Asheville. As a citizen he gave his influence for the cause of good government, as a churchman he devoted his time to the spiritual advancement of the community, as a physician he was successful, ever keeping in touch with the most recent methods of diagnosis and treatment, ever endeavoring to live up to the highest ideals and traditions of our noble profession. He was a regular attendant of all medical meetings, contributing to the programs, taking part in the discussions and lending his influence in upholding the unselfish principles of organized medicine.

Truth, honesty and an uncompromising sense of honor and duty to his fellowman were the outstanding qualities of his character. The people among whom he lived and walked and all who knew him, loved and respected Dr. Whittington.

We, the members of the Tri-State Medical Association, wish to express to his family and friends the sincere grief we feel in the death of Dr. Whittington, an honored and beloved colleague. While there is sorrow for his passing from our midst, we are thankful for the well rounded life he was permitted to give in service to his fellowman.

## Dr. Sparrell Simmons Gale

BY J. T. McKINNEY, M.D., Roanoke

On August 19, 1927, Sparrell Simmons Gale, at the age of fifty-one, died at the Lewis-Gale Hospital, Roanoke, Va. Of a vigorous, robust constitution, with ruddy complexion, grey hair, clear penetrating blue eyes, and an open, frank countenance, he was a striking figure. He knew no fear, and was a picture of physical health and manhood.

Stricken in the prime of life with a severe infection of Vincent's angina, he developed a toxic paralytic ileus from which he never recovered. Born a few miles out from Roanoke July 20, 1876, the greater part of his life was spent in the place of his birth.

Dr. Gale received his academic education at Roanoke College, and in 1901 was graduated from the College of Physicians and Surgeons, Columbia University. After spending several years in hospital work in Welch, W. Va., he returned to Roanoke, and in 1909 he and Dr. J. N. Lewis opened the Lewis-Gale Hospital. After the death of Dr. Lewis in 1912 he became associated with Dr. W. R. Whitman in the operation of the hospital. Dr. Gale was appointed assistant surgeon of the Norfolk and Western Railroad in 1908, assistant chief surgeon in 1912, and chief surgeon in 1916, acting in this capacity until his untimely death.

Dr. Gale needs no eulogy. He was a man of many personalities and not even his most intimate friends knew all. In whatever sphere he moved the friendless had a friend and the poor man, though unable to reward his services, found him always ready to give of his time, talents and money.

He was a man on whom nature impressed the stamp of greatness, both as an outstanding citizen of his community, and a great physician and surgeon. His apprehensions were as quick as lightning. His love of truth, honesty and frankness were outstanding char-



acteristics. He possessed an extraordinary keenness of observation and shrewdness, and was imbued with an unusual amount of common sense and loyalty to his friends. Although his knowledge appeared intuitive, few busy practitioners spent more time in reading and studying. His trustworthy, conservative professional judgment and unflagging interest in the new developments of medical science made him an outstanding figure.

Dr. Gale held membership in many medical and surgical societies, participating actively in their proceedings. High honors from his medical conferees came unsought and unsolicited. He was president of this society in 1923. The art of medicine has lost a master workman. His work, however, still lives, and many sufferers relieved by his skill rejoice that he lived.

He was a friend who knew no guile; in the bottom of his heart was rooted a tenderness and sympathy often unrevealed. The members of the Tri-State Medical Society have lost a counsellor, companion and friend.

### Dr. Arthur Thomas Pritchard

By WM. RAY GRIFFIN, M.D., Asheville

Arthur Thomas Pritchard was born January 28, 1882, at Marshall, N. C. He received his education at Horner Military School at Oxford, N. C., at the University of North Carolina, and at Jefferson Medical College, Philadelphia, in 1905. He began his practice at Marshall in 1906, later moving to Asheville, where he practiced from 1912 to the time of his death.

Arthur Pritchard was the eldest son of Judge Jeter C. Pritchard. He was thus connected with one of the most prominent families ever produced in Western North Carolina. Dr. Pritchard inherited much of the dominance and aggressiveness characteristic of his father. A child of those mountains, he loved them with a passion that kept him near them, although his professional fortune could have led him far afield. One of the pledges he made to his father was that he would always be a friend to take care of his father's friends, and thus the friends of the large family. He kept this pledge to the letter. In the last year of his life he performed considerably more than a thousand operations in his own hospital and a great many of these were from among these who

had loved the family through so many years.

Dr. Pritchard had many of the characteristics of the old-time family doctor. By that I mean, he easily became the close counselling friend of the family. Once he had a patient it was a rare thing he ever lost him. As is characteristic with many of our great profession, Dr. Pritchard served without reward or expectation of reward in hundreds of cases. His skill as a surgeon is testified to by the marvelous success with which he met.

On April 23, 1922, Dr. Pritchard, with a group of his professional friends, organized the French Broad Hospital. This they built in a very short period to where it is now one of our most used and useful institutions in Asheville. His unexpected death found him in the midst of preparation for building a new wing to the hospital. As a testimony to their esteem for him, his associates carried the plans through to fullest perfection, and on January 16, 1928, dedicated the new wing of the French Broad Hospital as the Arthur Thomas Pritchard Memorial wing. Nothing could be more fitting as a monument or memorial to Dr. Pritchard than this modern and splendidly equipped hospital. It was his passion, his interest and his ambition, as well as the performance of a favorite service.

The last call he made was on the evening before his unexpected death to a charity patient for whom he had cared without money or without price for a long time. Having already a crippled heart, climbing the steep steps that led up from her little tenement home, and going home from an excessively hard day, his heart simply could endure the strain no longer. During the early hours of the following morning, surrounded by his family and professional friends, in spite of all that love and science could do, he was taken away on the morning of May 26, 1928.

Dr. Pritchard was married to Miss Robin Kennett of Asheville on June 8, 1910, who, with their one child, Arthur Thomas Pritchard, jr., survives him.

It may creditably be said of Arthur Pritchard that he worthily practiced our best ethics; served efficiently in our largest field; adorned our profession in an enviable way; left for himself a memorial, expressive of his life of service; and leaves to each of us a worthy example.

## Dr. Augustus Robert Taft

BY FRANCIS B. JOHNSON, M.D.  
Charleston

On September 21, 1927, Augustus Robert Taft died at his home in Charleston, S. C., at the age of fifty-three. Dr. Taft was born in Charleston, and his early training was acquired through the public schools and later the high school of that city, after which he attended the University of Virginia for one year. He then attended the Medical College of the State of South Carolina, being graduated from this institution with the degree of Doctor of Medicine in 1895. In 1896 he was appointed assistant in chemistry of the Medical College of the State of South Carolina, upon the faculty of which institution he continued as a valued member until his death. During these years he served as professor of Roentgenology and Therapeutics and later as professor of Physical Therapy and Roentgenology, the last named position being held at the time of his death.

When the United States entered the world war he at once volunteered his services, and he was stationed at the U. S. Naval Base Hospital, District No. 6, Charleston, S. C., with the rank of lieutenant (senior grade), United States Navy, his assignment being chief of the x-ray department.

For fifteen years Dr. Taft devoted himself to the general practice of medicine, after

which, being convinced of the value of x-ray diagnosis and therapy and physical therapy although both of these were still in the making, devoted himself to this specialty which in his hands developed rapidly and at the time of his death he was roentgenologist to the Roper Hospital, the Baker Sanatorium and St. Francis Xavier Infirmary.

Few men have left such a record of unselfish service in the interests of humanity as Dr. Taft, and it would be impossible for any one to measure his sphere of influence, as it was ever widening and his interests increasing. He gave unsparingly of his time, and fulfilled all obligations with honor. Beside being a Fellow of this association, he was a member of the Medical Society of South Carolina; a Fellow of the American Medical Association; member of the American Roentgen Ray Society; member of the Radiological Society of North America and of the American Radium Society.

In 1897 he married Miss Mary Walter Witsell, who died June 11, 1927. His children, one son and three daughters, survive him.

Dr. Taft was a cultured, unostentatious, friendly and genial gentleman, with the highest ideals. His death has brought sorrow to all who knew him and especially to his personal friends who were many.



# THIRTIETH ANNUAL MEETING OF THE TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA

## ADDRESS OF WELCOME

DR. R. L. PAYNE, Norfolk, Va. ....

(Chairman Committee on Arrangements)

Mr. President and Members of the Tri-State Medical Association of the Carolinas and Virginia: We are glad to welcome you at Virginia Beach, both in behalf of the other members of the Tri-State and our local profession, the Norfolk County Medical Society. Virginia Beach is an attractive place as a resort, and we local fellows think that some day, though perhaps in the distant future, it will be as great a resort as Atlantic City. We are very grateful, however, while you are meeting here, that it is not a second Atlantic City, and that we have a lovely house to meet in and that we are segregated from things which would distract our sessions. We think that meeting like this, out of a city, will afford you more rest and more entertainment and more scientific enjoyment than meeting in a city. There are many papers on the program, and socially we have obeyed the dictates of our council and provided nothing in the way of entertainments. We had hoped to have something like a banquet tonight, but that idea was intercepted by something that had to be taken into account. Most of us come to these meetings for the papers and nothing else. I was much amused by the remark of a lawyer friend of mine who met me on the street last night. He said, "You doctors will probably talk yourselves to death." We have fine papers, and I hope all the essayists will tell us not only all that has gone in through their ears but all they have seen with their eyes and felt with their fingers. Most of us come to these meetings tired, worn out, bedraggled in body, soul, and spirit. I hope the quietness of this spot, the serenity, and the sweet beauty of it will bring restfulness to you all and that you will go away improved both in health and in medical spirit in every way. We welcome you, gentlemen; we are glad to have you; and we hope you will carry away with you some pleasant memories of Virginia Beach.

## AFTERNOON SESSION

DR. J. ALLISON HODGES, Richmond:

I should like to offer a motion which I realize is out of order at this time, but I am called back to Richmond and shall therefore ask this privilege.

I feel that this association is more deeply indebted to Dr. Paulus A. Irving, of Farmville, Va., than to any other person, and I should like to move that the following telegram be sent him by the secretary:

"After thirty years the Tri-State is again in session at Virginia Beach and sends its greetings and best wishes."

Motion seconded and carried.

Farmville, Va.,

Feb. 20, 1928.

Dear Doctor Hodges:

On Thursday last I received the following telegram from Dr. J. M. Northington, Secretary:

"Cavalier Hotel,  
"Virginia Beach, Va.

"After thirty years *Tri-State* is again in session at Virginia Beach. We send greetings and best wishes to a Founder.

(Signed) "J. M. Northington, Sec."

To which I replied by a night letter as follows:

"Dr. J. M. Northington, Sec.,  
"Cavalier Hotel,  
"Virginia Beach, Va.

"Your telegram received, for which accept my thanks and appreciation. Had I known that this was the thirtieth anniversary of the Tri-State I would gladly have been with you. Express to the president and members my best wishes for a profitable and successful meeting.

"Paulus A. Irving."

This was not delivered, as I was informed by the Western Union Telegraph Company, because Dr. Northington had left. I have an idea that you have some hand in this telegram, but whether you did or not, can

you send me Dr. J. M. Northington's address? I would like for him to know that I replied to so courteous and kind a telegram.

How are you? I was glad to see that you were able to attend the meeting, which I am sure you enjoyed. I am still at work, though not very well. I have some "myocarditis" which will get me after awhile.

Love and best wishes for you and Mrs. Hodges always.

Yours sincerely,

Paulus A. Irving.

#### ANNUAL MEETING OF THE COUNCIL

The President in the Chair

The secretary announced that in usual rotation the next meeting would be held in North Carolina. Invitations were received from Greensboro and Charlotte. Moved and seconded that Greensboro's invitation be accepted. Carried.

Ex-president J. Allison Hodges spoke at length in advocacy of a pre-arranged program dealing with one or more of our specific problems.

The president expressed the opinion that the Venereal Problem should be presented more fully to the public.

Councillor W. T. Vaughan said that while he felt that every member of the association was amply repaid for the time devoted to it, there was reason to believe that a distinctive name and definite pre-arranged program would enlarge its usefulness. Names suggested tentatively were *Southern Clinical Assembly* or *Congress*. He thought hook-worm disease and pellagra conditions demanded special consideration. A further idea of his was that subsidies might be obtained from State Chambers of Commerce, hotels, etc.

Motion Councillor Wyman, the president-elect, the N. C. members of the Council and Secretary-Treasurer be appointed a committee to arrange a program for the 1929 meeting, and that it was the sense of the Council that some clinics should be included; seconded; carried.

At the suggestion of Dr. Hodges it was moved, seconded and carried that an evening public meeting should be held.

To fill vacancies in the Council made by expiration of terms there were elected: Dr. Bolling Jones, Petersburg, Va.; Dr. D. A.

Garrison, Gastonia, N. C.; and Dr. De Witt Klutz, Greenville, S. C.; to fill vacancy made by removal of Councilor Douglas Murphy from Tri-State territory, Dr. L. G. Beall, Black Mountain, N. C.

#### ELECTION OF OFFICERS

DR. CYRUS THOMPSON, Jacksonville, N. C.:

We have been rather fortunate, I think, Mr. President, in the presidents we have had. I was very proud when you were elected president. I was proud of your predecessor. I want to keep on being proud of the Tri-State and proud of the men who preside over it. We have the very cream of the land in this society, but the creamiest cream that there is in the society is just one North Carolinian who is now a Virginian and has been for a number of years, one of the most ladylike gentlemen and lovable men that ever I saw in my life—to-wit, James K. Hall, of Westbrook Sanatorium. Now, sir, I am somewhat of a painter; if I had a six-inch brush and a bucket of paint, sir, I could paint a slab fence. I could do that very well, but I am not fool enough to paint the lily. You all know this honorable, ladylike gentleman. We shall honor ourselves by making him president, and I am sure no man has temerity enough to oppose him.

DR. F. C. RINKER, Norfolk:

I move that all other nominations be out of order. We are certainly blest to have a man like Dr. Hall to look forward to for the uplift of this society.

Dr. A. J. Crowell, Charlotte, moved that the nominations be closed and that the secretary cast the unanimous ballot of the society for Dr. Hall. Motion seconded by Dr. James M. Northington, Charlotte, and carried.

#### VICE-PRESIDENTS

Dr. William Allan, Charlotte, nominated Dr. Oren Moore, of Charlotte, as vice-president from North Carolina. Motion to close nominations; seconded; carried.

Dr. \_\_\_\_\_ nominated Dr. R. Finley Gayle, of Richmond, as vice-president from Virginia. Motion that the nominations be closed and the secretary cast the ballot of the society for Dr. Gayle; seconded, carried.

Dr. James M. Northington, Charlotte,



nominated Dr. Dewitt Kluttz, of Greenville, as vice-president from South Carolina. Dr. Moore seconded the nomination. Motion that nominations be closed and secretary cast the ballot; seconded; carried.

#### SECRETARY-TREASURER

Dr. A. J. Crowell, Charlotte, nominated Dr. James M. Northington for re-election. Motion that nominations be closed and the president cast the ballot; seconded; carried.

#### INSTALLATION OF PRESIDENT

At the request of President Wilson, Dr. A. J. Crowell and Dr. F. C. Rinker escorted the newly elected president to the chair.

DR. A. J. CROWELL, Charlotte:

Mr. President, I am quite sure your committee is greatly pleased to conduct your newly elected president to the chair, and we are delighted that he is to occupy it.

PRESIDENT WILSON:

I am delighted, Dr. Hall, to welcome you to the platform, and I turn over this meeting to you. I hope that you will have a very successful year.

PRESIDENT JAMES K. HALL, Richmond:

Mr. President and my fellow members: I am awed at being brought into association with the long list of presidents of the Tri-State Medical Association and deeply appreciative of the expression of your hope of me; and I am troubled about my unfitness for this high office. I suppose it is one of the functions—one of the hopes, at least—of a democracy to take the lump of clay and transform it and mold it into the needed thing. Sometimes I think that is a delusion rather than a hope, because the hope so often fails of realization. I have been interested in Dr. Thompson's psychoscopy of myself. It is a peculiar sort of sensation one experiences in witnessing his own mental postmortem during life. I was interested in the bioscopy of the Tri-State's situation as I heard it yesterday afternoon and last night. I think of the Tri-State as being immortal; every good thing, I hope, is immortal.

The meeting next year, I understand, is to be held at Greensboro, in Piedmont North Carolina, one year from now. (Applause.) Just about as far back as I can remember a boy in the sand hills of North Carolina developed the notion that the young women of North Carolina were entitled to as good edu-

cational opportunities as the young men of the state were, and he got hold of a vision that stayed with him until his sudden death. As a result of that vision he brought into being and brought about the establishment in Greensboro of a college for the education of the young women of North Carolina; and there in Greensboro you will see next year (many of you, I am sure, have already seen it) a great university for the education of women, the result of the vision of Charles D. McIver, a country boy of Moore county. You will see in Greensboro, too, a splendid college for women maintained by one of the great churches of that state. You will see there also a technical school for negroes, supported by the state of North Carolina, a school that does a very high grade of work. Out of Greensboro comes every morning of every day in the year one of the best newspapers published in this country. It carefully gathers in the news from all over the world, and it prevents daily an editorial page so alluringly written that nearly everybody in the state reads it. Just outside of Greensboro you can let your eyes fall upon a battlefield which marked the beginning of the great event which took place at Yorktown. The Revolutionary War began to close in Greensboro. So far as I know, the city of Greensboro has been inhospitable on only one occasion, and that was when it shut its doors with such violent inhospitality in the face of Lord Cornwallis in 1781. In Greensboro next year (I know you will bear out my assurance, because your individual cooperation is going to make it possible) we are going to have about the biggest meeting this association has ever known. So far as I know myself, I am without presidential qualifications. That means, of course, that each one of the members will have to be somewhat of a president, in order to keep me from being an entire failure as a president. I am going to count upon the hearty cooperation of each one of you, and next February, when we gather in Greensboro, we shall have a splendid meeting, as we always have.

#### MISCELLANEOUS BUSINESS

Dr. M. L. Townsend, Washington, D. C., moved that a committee of three, consisting of Dr. James K. Hall, Dr. J. Allison Hodges and Dr. Southgate Leigh, be authorized to

have a gavel made of such wood as may be suitable, not to cost over \$50, to be paid for by the secretary-treasurer. Motion seconded and carried.

DR. CYRUS THOMPSON, Jacksonville, N. C.:

Mr. President, I don't know whom to thank, but I move that we express in the minutes of this meeting the fact that we have been very delightfully entertained here at the Cavalier Hotel at Virginia Beach and that we feel very grateful to several and sundry parties who may have contributed to our de-

lightful entertainment.

This motion was amended by Dr. Northington to include the daily newspapers in Norfolk and to include the Norfolk County Medical Society and the local committee on arrangements.

Dr. Northington made a brief report of the Council meeting, which was accepted upon motion of Dr. A. J. Crowell.

There being no further business, the society then adjourned *sine die*.

## MEDICAL PROFESSION IN ANCIENT INDIA

(The Journal of Ayurveda)

Physician's place in the Royal army in ancient India:—Like the present day military services, there used to be physicians along with the troops on the battle fields to give both surgical and medical aid.

"A physician in king's service should adopt measures to protect the life of his royal master, specially from acts of secret poisoning, while mobilizing his armies to invade the territory of a neighboring monarch accompanied by his chiefs and ministers.

A common practice of the enemy under such circumstances is to poison the wells on the roadside, the articles of food, the shades of trees, and the fuel and forage for cattle; hence it is incumbent on a physician marching with the troops, to inspect, examine and purify these before using any of them in case they be poisoned.

As the external features of a king (king is here used to represent commander of the army) resemble those of a common person, while his commanding majesty, sacrifice, forbearance and fortune are superhuman, therefore a man, who is prudent and seeks his own good, should think reverentially of his king, and propitiate him with tokens of loyalty and allegiance as if he were a deity. A physician fully equipped with a supply of medicine, should live in a camp, not remote from the royal pavillion, and the persons wounded by shafts of arrows or any other war projectiles, or suffering from the effects of any imbibed poison, should resort to him, conspicuous like a triumphant ensign for his fame and profession success. A physician well versed in his

technical science, and commanding a fair knowledge of other allied branches of study as well is glorified by his king and is like a banner of victory, an ennobling ornament to the state."

The minds of men are restless and uncontrollable like an unbroken horse; faith is a rare thing in human society and hence a crowned king should never believe any one (a Royal physician is an exception) in this world. Therefore,

A king should always appoint a physician for the Royal kitchen to superintend the preparations (both food and drink) of the Royal fare.

"He should come of a respectable family, should be virtuous in conduct, fondly attached to the person of his sovereign and always watchful of the health of the king. He should be greedless, straight-forward, God-fearing, grateful, of handsome features and devoid of imbecility, roughness, vanity, arrogance and laziness. He should be forbearing, self-controlled, cleanly, compassionate, well-behaved, intelligent, capable of bearing fatigue, well meaning, devoted, of good address, clever, skilful, smart, artless, energetic, and marked with all the necessary qualifications as described before of physicians. He should be fully provided with all kinds of medicines and be highly esteemed by the members of his profession."

An interne in a New York hospital has recognized three cases of lead poisoning from snuff. The consumption of snuff in this territory is certainly great enough to make it wise that our doctors bear this in mind.

## NEWS NOTES

(Dr. L. B. McBrayer kindly passes on to us items received from over the state)

### THE ELLEN FITZGERALD HOSPITAL DINNER

(Last minute developments depriving us of the pleasure of participating, we are dependent on a newspaper clipping for most of this information.)

A remarkable meeting was that held by the staff of the Ellen Fitzgerald Hospital at Monroe, celebrating the close of the fifth year of its excellent management of this institution. The staff is composed of Doctors A. F. Mahoney, R. D. Pearson and J. J. Goudlock. These gentlemen had the rare experience, for doctors, of being proclaimed and celebrated while they are alive and in the prime of vigor and usefulness.

After the invocation by Dr. J. D. Harte, pastor of the First Baptist church of Monroe, the toastmaster, Hon. John C. Sikes, of this city, presented Dr. Mahoney as the most loved, most popular and finest citizen in the county; expressing the gratitude and appreciation of the citizenship of Monroe and Union county for Dr. Mahoney and his two efficient assistants, Doctors Pearson and Goudelock, and for the fine work they are doing and the inestimable value of their ability to humanity and science.

Dr. R. D. Pearson was next presented, who introduced Dr. A. H. Hayden, State Epidemiologist, of Columbia, S. C. In the course of his address Dr. Hayden referred to his long acquaintanceship with Dr. Mahoney and testified in high praise to his surgical ability, stating that the state of South Carolina sustained one of her greatest losses when she lost Dr. Mahoney, not only as a great surgeon but a great philanthropist.

Dr. J. J. Goudelock was then presented, who introduced Dr. Kenneth M. Lynch, professor of Pathology of the Medical College of South Carolina. Dr. Lynch delivered a most interesting address on the subject of rupture of ectopic pregnancy. Dr. Lynch also spoke in high praise of the fine skill and ability of Drs. Mahoney, Pearson and Goudelock, and of the progress the Ellen Fitzgerald Hospital has made under their management.

Among others prominent in their profession, who addressed the meeting, were: Dr.

A. J. Crowell, of Charlotte, president of the North Carolina Board of Health; Dr. John Q. Myers, of Charlotte, former president of the State Medical Society; Dr. J. R. Terry, of Lexington, a classmate of Dr. Mahoney; Dr. G. M. Smith, of Monroe, who carried the first patient to Ellen Fitzgerald Hospital; Dr. R. B. Davis, of Greensboro; Dr. Harvey P. Barret, of Charlotte; Dr. McNeill Blair, of White Plains, N. H., and Southern Pines, N. C.; Dr. J. P. Matheson, of Charlotte; Dr. W. S. Rankin, connected with the hospital work of the Duke Foundation; Dr. C. A. Julian, of Greensboro, and Dr. T. C. Bost, of Charlotte, district councilor of the State Medical Society. There were also many prominent physicians from Charlotte, Greensboro, Columbia, Lexington, Charleston, Hamlet, Fort Mill, Pageland, Waxhaw and Marshville.

The following telegram, received by the toastmaster, Mr. J. C. Sikes, from the president of Clemson College, brought much applause: "Please see that Dr. Kenneth Lynch and Dr. A. H. Hayden are properly returned as the State of South Carolina cannot navigate without them and it is still raining."

The Ellen Fitzgerald Hospital, as you know, is the result of a bequest of Mrs. Ellen Fitzgerald, who left her home to the city of Monroe, provided that it was to be used for hospital purposes. The hospital was built in 1921. We assumed active charge in 1923, and since that time have built the new building across the front, equipped it nicely, and established a training school for nurses.

Souvenirs of the occasion were given out in the form of perpetual metal desk calendars.

At the meeting of the GUILFORD COUNTY MEDICAL SOCIETY, held at High Point, February 2nd, Dr. F. R. Taylor, of High Point, spoke on "Periodic Health Examinations." Dr. Taylor has recently given up private practice and has become associated with the North Carolina State Board of Health.



### KINSTON CLINIC

Announcement has been made of the opening of the Kinston Clinic in the New Medical Arts Building, corner Queen and North streets, Kinston, N. C.

The Kinston Clinic, composed of the following doctors, moved into this new home—the Medical Arts Building—February 1, 1928: Medical Staff—Dr. Paul F. Whitaker, internal medicine and diagnosis; Dr. Victor L. Bigler, internal medicine and diagnosis; Dr. Charles P. Mangum, pediatrics; Dr. Elmond R. Boney, dermatology and syphilology. Surgical Staff—Dr. Floyd P. Wooten, general surgery and urology; Dr. Vance P. Peery, eye, ear, nose, throat and head surgery; Dr. F. Stanly Whitaker, obstetrics and gynecology; Dr. Thomas Leslie Lee, obstetrics and gynecology; Dr. J. G. Poole, dental surgery.

The second floor of the Medical Arts Building was planned and constructed for the above named men who are working strictly according to the group system. There is one large reception room, clinical laboratory in charge of a technician, library, record room, space for business department, registry desk and telephone exchange.

Being under the same roof, without duplication of records and help, is proving highly satisfactory and facilitating the work of this group.

The Kinston Clinic staff is the same as the staff of Memorial General Hospital, corner Rhoads avenue and College street, which opened about two and a half years ago, excepting the consulting staff of the hospital, which is composed of the following: Dr. G. Paul LaRoque, Dr. Manfred Call, Dr. Fred Hodges, of Richmond, Va.; Dr. J. Buren Sidbury, of Wilmington, N. C.; and Dr. T. B. Henderson, Goldsboro, N. C.

Dr. Charles B. Woodley, Dr. Ira M. Hardy, Dr. A. L. Hyatt, of Kinston, N. C., Dr. M. L. Carr, of LaGrange, N. C., compose the attending staff.

### MEDICAL COLLEGE OF VIRGINIA

The survey report on higher education in Virginia recently submitted to the Governor includes these recommendations among others in specific relation to the Medical College of Virginia, Richmond: that funds be provided to increase salaries approximately 20

per cent, to make possible more ample extension service, to supply a new laboratory for chemistry, pathology, and bacteriology and a building for clinical dentistry, and to develop research more generously. It also recommends that the college take over the state public health laboratory as now maintained by the State Board of Health and that the school of nursing be developed more generously on the side of pediatrics and obstetrics to make possible more affiliations in these subjects with the smaller hospitals in the State.

---

MEMBERS OF THE AMERICAN COMMITTEE FOR ATTENDANCE AT THE FIRST INTERNATIONAL OTO - RHINO - LARYNGOLOGICAL CONGRESS—Sailing from New York July 6th are: Dr. Thomas J. Harris, New York; Dr. Robert L. Loughran, New York; Dr. George M. Coates, Philadelphia; Dr. Henry B. Orton, Newark; Dr. W. P. Wherry, Omaha; and Maj. C. P. Mills, New York.

Eye, ear, nose and throat doctors of the world will meet for the first time at the First International Congress of the Oto-Rhino-Laryngological Society, to be held in Copenhagen, Denmark, July 29th to August 1st.

More than seventy-five specialists will represent the United States at the Congress. These doctors will also spend some time visiting at various large cities in France, England, Germany, Norway and Sweden.

---

THE FIRST STATE-WIDE INSTITUTE ON PARENTAL EDUCATION was held in Raleigh, February 14th, 15th and 16th. Tuesday morning, February 14th, Dr. Chas. O'H. Laughinghouse and Dr. H. H. Bass gave addresses. Tuesday afternoon, Dr. Geo. E. Vincent gave an address. Wednesday afternoon, Dr. J. T. Burrus and Dr. L. B. McBrayer, also E. A. Branch, D.D.S. Thursday afternoon Dr. W. C. Davison and Dr. G. W. Kutscher, jr., gave addresses.

---

DR. JAMES F. PICKENS, of Asheville, died at Fort Myers, Florida, on February 8th.

---

DR. H. F. GLENN, of Gastonia, N. C., died of pneumonia February 27th. An extended notice of the life of this able and popular doctor will appear in a subsequent issue.



THE FOURTH DISTRICT MEDICAL SOCIETY held its meeting recently at Smithfield. The main feature of the meeting was an address by Dr. J. L. Spruill, superintendent of the Guilford County Sanatorium, his subject being "Some Medical Follies."

THE CUMBERLAND COUNTY MEDICAL SOCIETY was the guest of Fort Bragg's commanding medical officer, Colonel David Baker, and staff, Tuesday evening, February 21st.

DR. HAROLD E. STORY, practice limited to exodontia and minor oral surgery (anesthetist and x-ray technician assisting), announces the opening of offices in the Independence building, Charlotte, N. C.

ST. LEO'S HOSPITAL, Greensboro, has been considerably improved in the last few months. An additional operating room has been completed, increased laboratory facilities added, and much repair work has been done throughout the hospital.

DR. C. S. GRAYSON, of High Point, read a paper at the meeting of the Guilford County Medical Society held at High Point, February 2nd, entitled "Some Phases in Obstetrical Practice."

MR. and MRS. E. M. DOAR, of Georgetown, S. C., announce the marriage of their daughter, Miss Minnie B. Doar, to Dr. J. Rufus McCracken, of Waynesville, N. C. Dr. McCracken is a physician well known throughout the state.

DR. F. R. TAYLOR, formerly connected with the Burrus Clinic and Hospital at High Point, has accepted a position with the State Board of Health and will be in charge of annual health examinations.

DR. JOHN B. WRIGHT, specialist eye, nose and throat, Raleigh, also member State Board of Health, is enjoying a cruise in the Mediterranean and may possibly visit the Holy Land before he returns. He expects to be out of the state for about two months.

DR. GEORGE L. CARRINGTON, surgeon at Rainey Hospital, Burlington, has moved from Durham to Burlington and will occupy the home formerly occupied by Herbert W. Coble.

DR. C. W. SAWYER, of Elizabeth City, a Past Grand of Achoree Lodge No. 14, I. O. O. F., died in his home recently. He will be greatly missed both in medical and fraternal circles.

## MISCELLANY

### LEGAL ASPECTS OF THE DOCTOR'S COMPENSATION

If the amount involved is large, or if the treatment will cover a long period of time, or if the death of the patient is probable, the better plan would be to have a memorandum of the agreement prepared and signed by the patient. A very brief memorandum will suffice, e. g., "In consideration of the medical services to be rendered by Dr. Jones, I promise to pay him \$500.00." The importance of this suggestion will be apparent when it is known that the physician cannot testify to the terms of an oral agreement in the event of the death of the patient, should the executor or administrator disallow the physician's claim; in such event the physician is likely

to lose a suit on the claim, and he cannot repudiate the express contract and sue on an implied agreement for the reasonable value of his services.

A woman, deserted by her husband, may bind the latter for medical services rendered her or the minor children of the parties; this is predicated upon the assumption that such services are necessities of life. Parents are liable for services rendered their minor children, even in cases where the physician is called in by strangers while the child is temporarily absent from the parental home. On the other hand, not all third persons are so liable. A master, in the absence of special agreement or statute, is not liable for medical services rendered a servant, nor is a father

liable for such services rendered an adult married daughter, even though the physician was summoned by the master and the father respectively. *Notwithstanding the fact that where a person requests another to render a service, the law implies a promise upon the part of such person to compensate the other for the reasonable value of such service, the rule has no application where a third party requests a physician to treat a patient, where such third party is under no obligation to secure the services of the physician.*

The youth or comparative inexperience of the physician have no bearing on the value of the services; the physician should rate himself in the class in which, in his opinion, he belongs; he has the right to determine the number of visits he should make and when they should cease. If nothing is said to the contrary, the physician is presumed to be employed during the entire illness of the patient he is summoned to treat, *though the patient has the right to terminate the service at any time; the physician, on the other hand, has not the right to abandon the case without the patient's consent.* As an abstract legal proposition, the result of the services, whether the patient dies or recovers, has no bearing on the reasonable value of the services rendered; a jury, however, would no doubt be greatly influenced in assessing the value of the services by the ultimate result to the patient. Nor has the financial condition of the patient anything to do with the reasonable value of the services; the services have, in law, the same reasonable value, whether the patient be rich or poor. There are a very few cases holding a view contrary to that last set forth.

—Milton A. Nathan, of the San Francisco Bar, in *Compend of Medicine and Surgery.*

#### THESE TEMPORARILY INSANE

(An Editorial by W. O. Saunders in *The Independent*, Elizabeth City, N. C.)

George Remus, notorious bootlegger, grafter, corruptionist, shyster pursues his wife on the streets of Cincinnati, shoots her down in cold blood and empties his revolver into her prostrate body. He goes into court, pleads temporary insanity, is acquitted of a charge of murder. Immediately machinery is put in motion to adjudge him no longer insane. He escapes the electric chair on a plea of insanity and shrewd lawyers and hired alientists set

about to prevent his incarceration in a lunatic asylum.

Mrs. Ruth Snyder, with the assistance of her paramour, Judd Gray, strangles her aged husband to death in his bed and batters his head with an iron window sash weight. She and Judd Gray are accused of murder; they are convicted and sentenced to die. Lawyers and alientists are employed to try to get them off on a plea of insanity.

William Edward Hickman, the Los Angeles youth who kidnapped a twelve-year-old girl, killed her, mutilated her body and threw the pieces at her father from an automobile, pleads now that he was insane at the time. He expects the courts to acquit him of a charge of murder on the grounds of insanity. And then he would expect hired experts to come along and proclaim him sane again, saving him from a lunatic asylum.

It is time the good common sense of the American people asserted itself and put an end to this abuse of a treacherous loop-hole in our laws.

Any one may plead temporary insanity and prove it. The greater one's intelligence, the easier it is for him to fool the so-called experts. Are the experts sane? Who is sane and who isn't? Isn't there more or less lunacy in most of us? Who has not thought so?

But here is a presumption obvious enough for the most simple-minded to agree upon: A person so constituted as to be subject to one fit of temporary insanity leading to the commission of a capital crime, is so dangerously constituted as to be a menace to human society, and for the good of himself and the good of society should be incarcerated for life.

Only this week a Georgia farmer who had once been incarcerated in a lunatic asylum and had later been restored to citizenship committed a double murder and had to be shot to death by a posse when he resisted arrest with a fire-arm.

If a Remus may be provoked to a temporary fit of insanity on one occasion, what assurance have we that he could not be even more easily provoked on another occasion?

How easily may every desperate criminal invoke the dodge of temporary insanity when he is inclined to do violence!

Governor Alfred E. Smith of New York has fortunately shown us a way to a saner

administration of our criminal laws in his recent message to the Legislature of his state. Says Governor Smith:

"I have for some time, because of my direct experience with the result of the administration of criminal justice, become deeply convinced that we could make a great stride in the direction of real justice if we changed somewhat our methods of administering it. We are dealing with human beings, no two of whom are ever under normal circumstances exactly alike. How much more are they likely to differ under abnormal situations.

We have progressed in our knowledge of the processes of the human mind and the influence on it of physical conditions. I would like to see that knowledge applied to the determination of the kind and duration of punishment best adapted to bring about the restoration of delinquents to normal social life.

Because of my belief that justice sometimes miscarries because those charged with determining guilt are often affected by the thought of the sentence to be im-

posed for a given crime, I would suggest that the crime commission give careful study and consideration to a fundamental change in the method of sentencing criminals.

After guilt has been determined by legal process, instead of sentence being fixed by judges according to statute, I should like to see offenders who have been adjudged guilty detained by the state. They should then be carefully studied by a board of expert mental and physical specialists who, after careful study of all the elements entering each case, would decide and fix the penalty for the crime."

Governor Smith, one of the sanest and most practical minds in twentieth century America, has shown us a way to a simple, practical, scientific administration of justice. Justice as now administered by a judiciary swayed this way and that by the sophistries of lawyers, and the opinions of hireling experts and the importunities of their own friends and the friends of criminals, is a farce, justifying the asseveration of that creature of Dickens' who proclaimed that "the law's an ass."

#### SUMMARY OF RESULTS OF SCHOOL CHILDREN'S TUBERCULOSIS CLINIC CONDUCTED BY THE EXTENSION DEPARTMENT, NORTH CAROLINA SANATORIUM, IN CO-OPERATION WITH LOCAL HEALTH AND SCHOOL AUTHORITIES

RESULTS OF TUBERCULIN TEST			
	White	Colored	Total
Number given tuberculin test .....	6761	1080	7841
Number negative reactors .....	5159 (76.31%)	818 (75.74%)	5977 (76.21%)
Number positive reactors .....	1602 (23.69%)	262 (24.26%)	1864 (23.79%)

RESULTS OF STUDY OF POSITIVE TUBERLIN REACTORS			
		% of the 1864 tuberculin reactors	% of the 7841 tested
Number of positive reactors .....	1864		
Number reactors for various reasons not examined .....	144	7.77	1.83
Number examined, though not x-rayed, but practically all having very mild reactions (1 plus) and presumably having no demonstrable tuberculosis .....	365	18.51	4.64
Number having physical examinations and x-rays of chest (anteroposterior and oblique) .....	1355		
Number having demonstrable tuberculosis .....	155	8.31	1.98
White .....	120	7.49	1.77
Colored .....	35	13.4	3.24
Tracheobronchial .....	140		
Pulmonary (apical) .....	9		
Extrapulmonary .....	6		
Number classified as suspicious .....	309	16.66	3.94
Number of reactors classified as not tuberculous .....	891	47.8	
Total number classified as definitely not tuberculous .....	6868		87.59
Positive tuberculin reactors found not tuberculous .....	891		
Negative tuberculin reactors .....	5977		

# MEMBERS OF THE TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA

## Non-Resident

Barker, L. F. (Hon.)	Baltimore, Md.
Caudill, E. L.	Elizabethton, Tenn.
Curry, J. W.	Rome, Ga.
Sharpe, William (Hon.)	New York City
Stirling, W. C.	Washington, D. C.
Summers, Chas. L.	Baltimore, Md.
Townsend, M. L.	Washington, D. C.
White, Chas. S.	Washington, D. C.
White, W. A. (Hon.)	Washington, D. C.

## North Carolina

Allan, William	Charlotte
Allgood, R. A.	Fayetteville
Ambler, C. P.	Asheville
Anders, McTyeire G.	Gastonia
Anderson, Albert (Hon.)	Raleigh
Ashworth, W. C.	Greensboro
Averitt, Kirby G.	Fayetteville
Baker, Julian M.	Tarboro
Barret, Harvey P.	Charlotte
Barron, A. A.	Charlotte
Battle, I. P.	Rocky Mount
Beall, L. G.	Black Mountain
Beam, R. S.	Lumberton
Beam, Hugh M.	Roxboro
Biggs, M. H.	Rutherfordton
Blair, A. McNeil	Southern Pines
Boddie, N. P.	Durham
Boice, E. S.	Rocky Mount
Bost, Thos. C.	Charlotte
Brackett, Wm. E.	Hendersonville
Brenizer, Addison G.	Charlotte
Brooks, R. E.	Burlington
Burrus, J. T.	High Point
Burt, S. P.	Louisburg
Carroll, R. S.	Asheville
Chester, P. J.	Fayetteville
Cole, W. F.	Greensboro
Cooke, G. Carlyle	Winston-Salem
Coppridge, W. M.	Durham
Crowell, A. J.	Charlotte
Crowell, A. J. (Hon.)	Charlotte
Crowell, L. A.	Lincolnton
Daniel, N. C.	Oxford
Davidson, J. E. S.	Charlotte
Davis, Francis M.	Canton
Davis, James W.	Statesville
Davis, R. B.	Greensboro
Dawson, W. W.	Grifton
De Laney, C. O.	Winston-Salem
Dixon, Guy E.	Hendersonville
Dixon, G. G.	Ayden
Dixon, W. H.	Ayden
Dunn, W. L.	Asheville
Elliott, J. A.	Charlotte
Elliott, W. F.	Lincolnton
Faison, Yates W.	Charlotte
Ferguson, R. T.	Charlotte
Fleming, M. I.	Rocky Mount
Fox, P. G.	Raleigh
Gage, L. G.	Charlotte
Garrison, D. A.	Gastonia
Gaul, J. S.	Charlotte
Gibbon, J. W.	Charlotte
Goodman, A. B.	Lenoir

Greene, Thos. M.	Wilmington
Griffin, M. A.	Asheville
Griffin, W. Ray	Asheville
Halford, J. W.	Lillington
Harper, J. H.	Snow Hill
Hathcock, T. A.	Norwood
Highsmith, J. D.	Fayetteville
Highsmith, J. F.	Fayetteville
Highsmith, Seavy	Fayetteville
Holt, Wm. P.	Duke
Hovis, L. W.	Charlotte
Jackson, W. L.	High Point
James, W. D.	Hamlet
Johnson, Bayard C.	Bunn
Johnson, Chas. T.	Red Springs
Johnson, T. C.	Lumberton
Johnson, W. C.	Canton
Johnston, J. G.	Charlotte
Julian, C. A.	Greensboro
Kapp, Henry H.	Winston-Salem
Kelly, Luther W.	Charlotte
Kennedy, John P.	Charlotte
Kerr, J. D.	Clinton
Lafferty, R. H.	Charlotte
Laughinghouse, C. O'H. (Hon.)	Greenville
Lawrence, Chas. S.	Winston-Salem
Lilly, J. M.	Fayetteville
Love, Bedford E.	Roxboro
Martin, M. S.	Mount Airy
Martin, W. F.	Charlotte
Matheson, J. P.	Charlotte
Miller, O. L.	Charlotte
Moore, Alex W.	Charlotte
Moore, Oren	Charlotte
Motley, F. E.	Charlotte
Munroe, H. Stokes	Charlotte
Munroe, J. P. (Hon.)	Charlotte
McBrayer, L. B.	Southern Pines
McCampbell, John	Morganton
McFadden, R. H.	Charlotte
McGougan, J. V.	Fayetteville
McKay, Hamilton W.	Charlotte
McMillan, R. D.	Red Springs
MacNider, W. deB. (Hon.)	Chapel Hill
McPherson, S. D.	Durham
Nalle, Brodie C.	Charlotte
Nance, Chas. L.	Charlotte
Nash, J. F.	St. Pauls
Neal, Kemp P.	Raleigh
Newton, Howard L.	Charlotte
Nisbet, D. Heath	Charlotte
Nisbet, W. O.	Charlotte
Northington, J. M.	Charlotte
Orr, Chas. C.	Asheville
Parker, J. R.	Burlington
Parker, O. L.	Clinton
Phillips, C. C.	Charlotte
Pittman, R. L.	Fayetteville
Procter, Ivan M.	Raleigh
Pugh, C. H.	Gastonia
Rankin, W. S.	Charlotte
Ranson, J. L.	Charlotte
Roberson, Foy	Durham
Robertson, J. N.	Fayetteville
Royster, Hubert (Hon.)	Raleigh
Royster, T. S.	Henderson
Russell, Jesse M.	Canton
Scott, Chas. L.	Sanford
Scruggs, W. M.	Charlotte
Shirley, H. C.	Charlotte
Shore, C. A.	Raleigh



Sloan, Henry L.	Charlotte
Sloan, W. H.	Garland
Smith, C. T.	Rocky Mount
Smithwick, J. E.	Jamesville
Smith, Owen	High Point
Sparrow, Thos. D.	Charlotte
Spicer, R. W.	Winston-Salem
Squires, C. B.	Charlotte
Stanton, D. A.	High Point
Stevens, M. L.	Asheville
Tayloe, David T. (Hon.)	Washington
Tayloe, Joshua	Washington
Tayloe, David T., jr.	Washington
Taylor, E. H. E.	Morganton
Taylor, W. L.	Oxford
Thomas, W. N.	Oxford
Thompson, Cyrus	Jacksonville
Thompson, S. R.	Charlotte
Todd, L. C.	Charlotte
Tucker, J. H.	Charlotte
Vann, J. R.	Spring Hope
Verdery, W. C.	Fayetteville
Vernon, J. W.	Morganton
Walters, Chas. M.	Burlington
Warren, W. E.	Williamston
Weathers, Bahnson	Roanoke Rapids
West, T. M.	Fayetteville
Whisnant, A. M.	Charlotte
Willis, B. C.	Rocky Mount
Yarborough, R. F.	Louisburg

## South Carolina

Abell, R. E.	Chester
Allison, J. R.	Columbia
Baker, A. E. (Hon.)	Charleston
Baker, A. E., jr.	Charleston
Barron, W. R.	Columbia
Black, H. R.	Spartanburg
Black, H. S.	Spartanburg
Black, S. O.	Spartanburg
Black, W. C.	Greenville
Blackmon, W. R.	Rock Hill
Brockman, Thos.	Greer
Bunch, G. H.	Columbia
Burnside, A. F.	Columbia
Cannon, J. H.	Charleston
Carpenter, E. W.	Greenville
Cathcart, R. S. (Hon.)	Charleston
Corbett, J. W.	Camden
Coggeshall, J. T.	Darlington
Davis, T. McC.	Greenville
Durham, F. M.	Columbia
Earle, C. B.	Greenville
Eppe, C. B.	Sumter
Evatt, Clay	Greenville
Finney, Roy P.	Spartanburg
Foster, Carl A.	Columbia
Foster, R. K.	Columbia
Fouche, J. S.	Columbia
Furman, Dav's (Hon.)	Greenville
Guerry, LeGrand (Hon.)	Columbia
Horger, E. L.	Columbia
Hughes, R. E. (Hon.)	Laurens
Jefferies, J. L.	Spartanburg
Jenkins, P. G.	Charleston
Jennings, Douglas	Bennettsville
Johnson, F. B.	Charleston
Jordan, Fletcher	Greenville
Kollock, Chas. W. (Hon.)	Charleston
Kinney, P. M.	Bennettsville

Kluttz, DeWitt	Greenville
Lander, F. M.	Williamston
Lyles, W. B.	Spartanburg
Lynch, K. M.	Charleston
McGill, W. K.	Clover
McInnes, G. Fleming	Charleston
McIntosh, J. H. (Hon.)	Columbia
McLeod, F. H. (Hon.)	Florence
Maguire, D. L.	Charleston
Martin, T. H.	Charleston
Mauldin, L. O.	Greenville
May, C. R.	Bennettsville
Montgomery, B. McQ.	Kingstree
Pitts, Thos. A.	Columbia
Pollitzer, R. M.	Greenville
Rakestraw, C. M.	Newberry
Ravenel, J. J.	Charleston
Reeves, T. B.	Greenville
Rhame, J. Sumter	Charleston
Routh, Foster M.	Columbia
Smith, D. L.	Spartanburg
Seibels, Robert E.	Columbia
Smith, Herbert	Glenn Springs
Smith, J. E.	Charleston
Sherard, S. Baskin	Gaffney
Smith, Hugh	Greenville
Smith, T. H.	Bennettsville
Smith, W. A.	Charleston
Smith, Zach G.	Marion
Smyster, J. D.	Florence
Steadly, B. B.	Spartanburg
Stuart, Gordon C.	Eastover
Stucky, H. M.	Sumter
Stuckey, T. M.	Cope
Taylor, J. H.	Columbia
Timmerman, W. P.	Batesburg
Walker, R. R.	Laurens
Wallace, Wm. R.	Chester
Ward, W. B.	Rock Hill
Weinberg, Milton	Sumter
Wilkinson, Geo. R.	Greenville
Wilson, Robt., jr. (Hon.)	Charleston
Wolfe, H. D.	Greenville
Wyman, Hugh E.	Columbia
Wyman, M. H.	Columbia
Zimmermann, W. T.	Spartanburg

## Virginia

Anderson, Paul V.	Richmond
Baughman, Greer	Richmond
Bear, Joseph	Richmond
Blackwell, Karl S.	Richmond
Brown, Alex G., jr.	Richmond
Brown, George W.	Williamsburg
Bryan, Robt. C. (Hon.)	Richmond
Budd, S. W.	Richmond
Burke, M. O.	Richmond
Buxton, J. T.	Newport News
Call, Manfred	Richmond
Clarkson, Wright	Petersburg
Cole, Dean B.	Richmond
Coleman, C. C.	Richmond
Culpepper, James H.	Norfolk
Darden, O. B.	Richmond
Davis, J. W.	Lynchburg
Davis, T. Dewey	Richmond
Dillard, J. W.	Lynchburg
Dodson, A. I.	Richmond
Drewry, W. F.	Petersburg

Dunn, John W.	Richmond	McGuire, Stuart (Hon.)	Richmond
Ennett, N. Thomas	Richmond	McKinney, Joseph T.	Roanoke
Faulkner, D. McK.	Richmond	Masters, H. R.	Richmond
Fowlkes, C. H.	Richmond	Mauck, H. Page	Richmond
Fravel, R. C.	Richmond	Michaux, Stuart	Richmond
Gayle, E. M.	Portsmouth	Miller, C. M.	Richmond
Gayle, R. F., jr.	Richmond	Nelson, Garnett	Richmond
Geisinger, Joseph F.	Richmond	Nuckols, M. E.	Richmond
Goodwin, W. H.	University	Payne, R. L.	Norfolk
Graham, J. T.	Richmond	Peple, W. L. (Hon.)	Richmond
Graves, S. H.	Norfolk	Porter, W. B.	Roanoke
Gray, A. L.	Richmond	Preston, Robert S.	Richmond
Grinnan, St. Geo. T.	Richmond	Price, L. T.	Richmond
Hall, J. K.	Richmond	Rawls, J. E.	Suffolk
Hamlin, P. G.	Richmond	Rghter, Frank P.	Richmond
Hamner, J. L.	Mannboro	Rinker, F. C.	Norfolk
Harrell, D. L.	Suffolk	Robertson, L. A.	Danville
Hazen, Chas. M.	Bon Air	Robins, Charles R.	Richmond
Hedges, H. S.	University	Royster, J. H.	Richmond
Henderson, E. H.	Marion	Rucker, M. P.	Richmond
Henson, J. W.	Richmond	Sherrill, Z. V.	Marion
Hill, Emory	Richmond	Showalter, A. M.	Christiansburg
Hodges, Fred M.	Richmond	Smith, James H.	Richmond
Hodges, J. Allison (Hon.)	Richmond	Spencer, H. B.	Lynchburg
Horsley, J. S.	Richmond	Surratt, Isaac W.	Belspring
Howle, Paul W.	Richmond	Tabb, J. L.	Richmond
Hughes, T. E.	Richmond	Talley, D. D., jr.	Richmond
Hughes, T. J.	Roanoke	Terrell, E. H.	Richmond
Hunter, J. W., jr.	Norfolk	Thomas, C. W.	Floyd
Hutcheson, J. M.	Richmond	Tucker, B. R.	Richmond
Jameson, Waller	Roanoke	Turman, A. E.	Richmond
Johns, Frank S.	Richmond	VanderHoof, Douglas	Richmond
Jones, A. P.	Roanoke	Vaughan, Warren T.	Richmond
Jones, J. Bolling	Petersburg	Woolling, R. H.	Pulaski
Jones, Thos. D.	Richmond	Wellford, B. R.	Richmond
Keyser, L. D.	Roanoke	White, Joseph A. (Hon.)	Richmond
King, J. C.	Radford	Williams, Carrington	Richmond
Leigh, Southgate (Hon.)	Norfolk	Williams, L. L., jr.	Richmond
Lyerly, J. G.	Richmond	Willis, Murat	Richmond
McGavock, E. P.	Richmond	Wilson, Franklin D.	Norfolk
McGuire, H. H.	Richmond	Wright, R. H.	Richmond

## NEW MEMBERS

Elections to Fellowship in the Association for 1928 are as follows:

Name	Address	Recommended by
Dr. John Q. Myers	Charlotte, N. C.	Dr. William Allan, Charlotte, N. C.
Dr. Alto Freed Mahoney	Monroe, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Edward Reginald Hipp	Charlotte, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Archie Clay Monroe	Richmond, Va.	Dr. Alfred L. Gray, Richmond, Va.
Dr. Clarence N. Peeler	Charlotte, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Vance Price Peery	Kinston, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. William Bernard Kinlaw	Rocky Mount, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. L. D. McPhail	Charlotte, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Alonzo Harrison Myers	Charlotte, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Joseph Hart Hidden	Pungoteague, Va.	Dr. J. M. Northington, Charlotte, N. C.
Dr. William Pomeroy Biggart	Charlotte, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Thomas Leslie Carter	Gatesville, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Ronda Horton Hardin	Banner Elk, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. William Cummings Tate	Banner Elk, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Wilburt Cornell Davison	Durham, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Henry J. Langston	Danville, Va.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Orion T. Finklea	Florence, S. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Lester Arnauld Wilson	Charleston, S. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Charles James Andrews	Norfolk, Va.	Dr. J. M. Northington, Charlotte, N. C.
Dr. A. Brownby Hodges	Norfolk, Va.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Andrew Byron Holmes	Fairmont, N. C.	Dr. J. M. Northington, Charlotte, N. C.
Dr. Roy Bowman McKnight	Charlotte, N. C.	Dr. Wm. Allan, Charlotte, N. C.

Dr. William Randolph Graham	Richmond, Va.	Dr. Warren T. Vaughan	
Dr. T. Neill Barnett	Richmond, Va.	Dr. J. L. Tabb, Richmond, Va.	
Dr. John Powell Williams	Richmond, Va.	Dr. W. Lowndes Peple, Richmond, Va.	
Dr. Esmond Ensley Council	Louisburg, N. C.	Dr. S. P. Burt, Louisburg, N. C.	
Dr. H. G. Perry	Louisburg, N. C.	Dr. S. P. Burt, Louisburg, N. C.	
Dr. William Lee Hill	Lexington, N. C.	Dr. C. O. DeLaney, Winston-Salem, N. C.	
Dr. Wharton G. Leak	East Bend, N. C.	Dr. C. O. DeLaney, Winston-Salem, N. C.	
Dr. Edward C. S. Taliaferro	Norfolk, Va.	Dr. J. M. Northington, Charlotte, N. C.	
Dr. Wm. Gary Blackwell	Parksville, S. C.	Dr. C. J. Andrews	
Dr. Oscar F. Smith	Scotland Neck, N. C.	Dr. J. M. Northington, Charlotte, N. C.	
Dr. Robert Ashe Moore	Charlotte, N. C.	Dr. J. M. Northington, Charlotte, N. C.	
Dr. Joseph Rush Shull	Charlotte, N. C.	Dr. J. M. Northington, Charlotte, N. C.	
Dr. Ewen Kenneth McLean	Charlotte, N. C.	Dr. J. M. Northington, Charlotte, N. C.	
Dr. E. T. Dickinson	Greenville, N. C.	Dr. J. M. Northington, Charlotte, N. C.	
Dr. William I. Wooten	Greenville, N. C.	Dr. C. O'H. Laughinghouse, Raleigh, N. C.	
Dr. F. P. Wooten	Kinston, N. C.	Dr. V. P. Peery, Kinston, N. C.	
Dr. F. S. Whitaker	Kinston, N. C.	Dr. V. P. Peery, Kinston, N. C.	
Dr. P. F. Whitaker	Kinston, N. C.	Dr. V. P. Peery, Kinston, N. C.	
Dr. C. P. Mangum	Kinston, N. C.	Dr. V. P. Peery, Kinston, N. C.	
Dr. T. L. Lee	Kinston, N. C.	Dr. V. P. Peery, Kinston, N. C.	
Dr. V. L. Bigler	Kinston, N. C.	Dr. V. P. Peery, Kinston, N. C.	
Dr. C. A. Davenport	Hertford, N. C.	Dr. J. M. Northington, Charlotte, N. C.	
Dr. L. B. Kelleher	Charlotte, N. C.	Dr. J. M. Northington, Charlotte, N. C.	
Dr. G. H. Petteway	Charlotte, N. C.	Dr. J. M. Northington, Charlotte, N. C.	
Dr. J. H. Shuford	Hickory, N. C.	Dr. J. M. Northington, Charlotte, N. C.	

## REVIEW OF RECENT BOOKS

**GROWTH OF OUR KNOWLEDGE OF HEART DISEASE**, by R. O. Moon, M.A., M.D., F.R.C.P., Consulting Physician to the Royal Waterloo Hospital, Physician to the National Hospital for Diseases of the Heart. Longmans, Green & Co., Ltd., London and New York, 1927. \$1.40.

The writer admits that we have not progressed far in knowledge as to what any given heart will do or not do. He outlines the growth of conceptions of cardiac physiology and pathology from Hippocrates to Einthoven.

**BABY'S HEALTH DAY BY DAY**, Published by the Professional Press, Inc., 17 North Wabash Ave., Chicago.

This is a booklet of blanks for filling in a minute daily record of the baby's life. The reviewer can hardly think of a greater misfortune to a baby than that of being watched every minute for something to record.

**THE HARVEY LECTURES**, Delivered under the Auspices of The Harvey Society of New York 1926-1927, under the patronage of the New York Academy of Medicine, by Dr. Fred Neufeld, Dr. Joseph Erlanger, Dr. Robert Chambers, Dr. Edgar L. Collis, Dr. Leonor Michaelis, Dr. Richard Willstatter, and

Dr. Merkel H. Jacobs. Series XXII. The Williams & Wilkins Company, Baltimore, 1928. \$4.00.

This is the twenty-second volume of the Harvey Lectures. The first lecture, subject, Origin and Dissemination of Tuberculosis, by Dr. Fred Neufeld, director of the Robert Koch Institute, is one of the most absorbing interest because of its immense importance to every man practicing medicine. Other subjects as: The Nature of the Living Cell, Gastric Juice, Health and Activity, Organic Chemistry's Relation to Medicine and The Exchange of Material between the Erythrocyte and its Surroundings—indicate serious attempts made to delve deep where only the surface has been scratched.

**DE LAMAR LECTURES 1926-1927**, by F. Neufeld, Alfred E. Cohn, George H. F. Nuttall, Edward Francis, William H. Park, Alphonse R. Dochez, Veranus A. Moore, Edgar L. Collis, Earle B. Phelps, Marshall A. Barber. The Williams & Wilkins Co., Baltimore, 1928. \$5.00.

A series of popular lectures in personal and public hygiene is arranged each session, by the School of Hygiene and Public Health of the Johns Hopkins University.



The object of these lectures is to bring before the public the general facts and points of view of modern hygiene, with the hope that in this way the school may serve as a center for the distribution of useful knowledge in all matters pertaining to sanitation and preventive medicine.

These lectures are supported from the fund bequeathed to the Medical School by Joseph R. De Lamar, in accordance with the wish expressed in his will "to give to the people of the United States generally the benefits of increased knowledge concerning the prevention of sickness and disease and also concerning the conservation of health by proper food and diet."

This volume includes the lectures given in the sixth series, during the session of 1926-1927, at the School of Hygiene and Public Health.

Among the subjects of the lectures are: Natural Immunity in its Significance for Epidemiology, The Variability of Bacteria, Heart Disease, Some Pioneers in Parasitology, Tularemia, Measles, Scartatinal Streptococcus Antitoxin, Bovine Tuberculosis in its Relation to Man, The Environment in Relation to Health, Results of Malaria Control Measures.

This list well indicates the scope. The auspices under which these lectures are given warrant the authoritativeness of the information.

**TREATMENT OF DISEASE IN INFANTS AND CHILDREN**, by Hans Kleinschmidt, M.D., Professor of Pediatrics, University of Hamburg; authorized translation of the fifth German edition with additions by Harry M. Greenwald, M.D., Attending Pediatrician to the United Israel Zion Hospital. Philadelphia, P. Blakiston's Son & Co., 1012 Walnut Street. \$5.00.

The practical nature of this book may be surmised from the statement in the introduction that it treats of only those therapeutic measures which are strongly indicated.

The chapter on general therapy of the acute infectious diseases of childhood wades right into the subject by saying that the patient should be confined to bed, the room temperature kept at 64 degrees F., and no routine starvation diet should be instituted.

The author is not a non-believer in the efficacy of drugs; nor has he any phobia of

coal-tar derivatives. Some agents recommended are little known in this country. He is a stout champion of breast feeding. The chapter on the feeding of the constitutionally abnormal infant is rational and understandable.

In scarlet fever caution is given against overfeeding "particularly an excess of milk." Discrimination is advised as to vaccination. There is a chapter of formulas and recipes for the sick infant and child.

There is a minimum of "may be tried." Most of the directions are specific and indicate the confidence born of success with those measures.

#### VENOUS SPACES OF PENIS AS AVENUE FOR TRANSFUSION

Facing failure in an attempt to perform a blood transfusion in a patient whose few available veins had become thrombosed from previous venipuncture, the man being in a condition of extreme shock from persistent bleeding after prostatectomy and the blood urgently needed, it occurred to E. Clay Shaw, Miami Fla. (*Journal A. M. A.*, Feb. 11, 1928), that the blood might be introduced into the circulation through the venous spaces of the corpora cavernosa of the penis. The idea was acted on and was attended with a completely satisfactory result. This avenue to the circulation has been used on seven occasions without unpleasant complications, either immediate or remote. Three of the patients received 500 c.c. of citrated blood, two were given physiologic sodium chloride solution, and the remaining two received 10 per cent dextrose. In the group receiving blood there was one moderate reaction of the character often observed following the transfusion of citrated blood. No untoward effect was noted in the group receiving salt and dextrose solutions. In all cases the penis remained normal throughout the patient's period of observation in the hospital. In no instance was there any evidence of thrombosis. It was possible to communicate with three of these patients a year or more afterward, and all reported that there had been no change observed in either the appearance or function of the organ.

"They say he's wandering in his mind."

"That's all right. He won't go far."—*Pomona Sagehen*.

#### INSTALLMENT MEN HAD HIM

The boss was tired of being continually importuned by one of his dusky workers for the next week's salary, and finally said:

"Mose, you're the limit. Say, what would you do if you had all the money in the world?"

"Well, suh," replied Mose, studiously enough, "de fust thing Ah'd do would be to pay all mah debts—as far as it'd go."—*Lincoln County News*.

Wait. Henry's rubber plantation will come in bearing soon, and then he'll give you a car with each set of tires.—*La Grange (Ga.) Reporter*.



## CHUCKLES

### EUGENE FIELD'S DRAMATIC CRITICISM

Field was famous and enviable for his capacity to say all that he needed to say about a play in one or, on occasions calling for extreme verbosity, two sentences.

I quote again, as I have often quoted, two of his capsule criticisms. There was, for instance, the singularly compact and illuminating review which merely said:

"Last night, So-and-So played Hamlet at the Tabor Grand. He played it till one o'clock."

But the classic review was his summary of the late Creston Clarke's performance in King Lear. Clarke was an unimposing actor who toured this land in Shakespearean repertory for a number of years on the somewhat slender excuse that he was a nephew of Edwin Booth.

Field probably felt that any nephew of Edwin Booth was entitled to a livelihood out of the American theatre, but that even such justification hardly fitted Mr. Clarke to rattle around in so magnificent a ruin as Lear. At all events, his succinct resentment in next day's paper took this form:

"Last night Creston Clarke played King Lear at the Tabor Grand. All during the five acts of that immortal tragedy he played the king as though in constant apprehension that someone else was about to play the ace."—Alexander Woollcott in *Colliers*.

### PROMPTED FROM THE BACK SEAT

The driver of a Ford sedan, who was plainly out of his element in city traffic, attempted to turn around in the middle of a block, and was side-swiped and upset by a hook and ladder fire truck on its way to answer a call.

Striding over to the overturned vehicle, a traffic officer poked his head through the broken window and demanded, "What do you mean by blocking traffic like this? C'mon outta there; you're pinched!"

"You let him alone!" said a female voice from the back seat. "How did we know them drunk painters were going to run into us?"—*Goblin*.

### BET THAT JUDGE WAS A DOCTOR IN DISGUISE

Policeman: "Judge, this man is arrested for gambling and being drunk."

Drunk: "Your Honor, 'Man's inhumanity to man makes countless thousands mourn.' I'm not as debased as Swift, as profligate as Byron, as dissipated as Poe, or as debauched as—"

Judge: "That will do. Thirty days, and officer, take a list of those names and run them in; they're as bad as he is."—Washington and Lee *Mink*.

### WARMING UP PINCH HITTER FOR CRAVEN COUNTY CORN?

A shipment of anti-snake bite serum was received by Dr. L. W. Corbett, Wayne health officer, on Friday. It is believed that this is the first shipment of this serum received in Eastern North Carolina.

The serum is to be used in the event of a bite by a rattle snake, copperhead, moccasin or other venomous reptile.—*Goldsboro News*.

### "THE FUNERAL MADE THE ATTRACTION AND THE BLACK THE WOE"—Byron.

"NATURE-APPALLED, SHAKES OFF HER WONTED FIRMNESS."—*Shakespeare*.

Rastus—"Huh! Clean forgot dat fun-al—bet dey had a big one."

Wash—"Yo' said it, boy—biggers' fun'al ever was round heah. All dem lodges an' societies what Mose belong to was out in dey full regalium, an' dey had fo' choruses to sing de hymns, and dey t'ee preachers to preach the summon. Den dey had a long parade all de way to de graveyard, an' mo, flawehs dan yo' evch seen piled aroun' de grave. Dey put dat coffin on dem sticks' crosst de grave—an' den dat Mose Grandle done de blamedest thing you evch seen at a fun-al. Yes, suh!"

"What did he do?"

"He des kicked de lid off dat coffin and set right straight up an' looked aroun' at all de crowd!"

"My lawd! Did they bury him?"

"Gawd knows—I don't."—*Lincoln County News*.

### PASSING THE BUCK

A young man recently married one of two very beautiful twins, as alike as two peas in a pod. Many people remarked at the likeness between the two women and often wondered how the husband knew one from the other.

One day one of his friends met him on the street and being curious said: "John, the whole town is interested in your case. What we would like to know is—how do you tell the two of them apart?"

"Well, to tell the truth," replied John, "I don't try. The wrong twin just has to look out."—*Am. Humor*.

### HAH! HAH! HAH! HAH!

"Did I understand ye to say ye never took a drink in a yer life?"

"Yes, sir, liquor has never passed my lips."

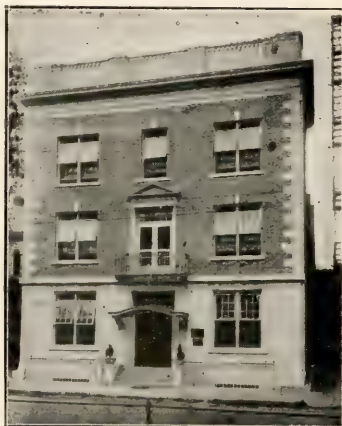
"Weel, sir, my old man now deid was a bit o' a drinker a' his life, an' three days after he deid he was a healthier looking mon than you are now."—*Pharmaceutical Advance*.

Wendell Phillips, as ardent an abolitionist as ever walked, was eating breakfast in a Charleston hotel one day, served by a slave. He finally asked the aged negro to go away, as he could not bear to be waited upon by one who was in bondage. The negro remonstrated: "Scuse me, massa, but I'se 'bliged to stay yere, 'cause I'se 'sponsible fo' de silverware."—*Lincoln County News*.

Mr. Blank, out driving, asked his colored chauffeur to stop the car while he admired a large, handsome building he had not seen before. Pointing to a stone at its base bearing the date A. D. 1924, he said, "George, do you know what that A. D. stands for?"

"Suttinly, boss, suttinly," responded the chauffeur. "Why dat dere A. D. stands for 'all done.'"—*Lincoln County News*.

# CHARLOTTE EYE, EAR, THROAT HOSPITAL



NO. SIX WEST SEVENTH ST.  
Adjacent to Professional Building  
Charlotte, North Carolina

## —STAFF—

### OTO-LARYNGOLOGY

Dr. J. P. Matheson  
Dr. C. N. Peeler

### OPHTHALMOGY

Dr. H. L. Sloan

### SINUOLOGY, OESOPHAGOSCOPY

Dr. F. E. Motley

### SUPERINTENDENT

Miss Anna Larsen

Rooms—Single or En Suite

OFFICES OF THE STAFF ARE LOCATED IN THE HOSPITAL

A modern, fireproof, completely equipped Hospital for the diagnosis and treatment of diseases of the Eye, Ear, Nose and Throat.

*Nursing staff consists of graduate nurses only.*

THE RUTHERFORD COUNTY MEDICAL SOCIETY, at its regular meeting March 6th, elected the following officers: President, Dr. J. F. Hunt, Spindale; vice-president, Dr. P. H. Wiseman, Avondale; secretary-treasurer, Dr. W. C. Bostic, sr., Forest City. Dr. R. H. Crawford, Rutherfordton, was chosen delegate, and Dr. W. C. Bostic, jr., Forest City, alternate, to the meeting of the Medical Society of the State of North Carolina.

It was unanimously voted that delegates be instructed to vote that *Southern Medicine and Surgery* be adopted as the official journal of the Medical Society of the State of North Carolina.

DR. E. B. QUILLEN, prominent physician and well known citizen of Rocky Mount, N. C., and member of the staff of Park View Hospital, died of pneumonia March 7th. Interment was at Harrington, Delaware, the old home of the deceased.

Instructor in electrical school: "How many natural magnets are there?"

Pupil in E. S.: "Two."

I. in E. S.: "Name them."

Pupil in E. S.: "Blondes and brunettes."—*Carolina Motorist*.

I: "Why don't you get some fenders and a tail light on your Ford?"

II: "Oh, I think it oloks snobbish to put a lot of extras on a car."—*Nebraska Awgwan*.

"Hands up!"

"Oh, so you're a thug."

"No, a palmist; you're going to have a financial loss."—*Williams Purple Cow*.

## TWO CONSECUTIVE ITEMS IN A PAPER AYANT THE TWEED

A shilling found in the stomach of a herring caught in the North Sea.

The Aberdeen fleet has put to sea.

## THE FAVOR HE DESIRED

Doctor: "About nine patients out of ten don't live through the operation. Is there anything I can do for you before we begin?"

Uncle Ben: "Yessha. Jus' gimme ma hat."—*Medical Insurance*.

# Southern Medicine and Surgery

VOL. XC

CHARLOTTE, N. C., APRIL, 1928

NO. 4

## ADDRESS OF THE PRESIDENT of the

### Tri-State Medical Association of the Carolinas and Virginia Thirtieth Annual Session, 1928

ROBERT WILSON, JR., M.D., Charleston, S. C.

It would be ungracious if I did not take this opportunity to express my appreciation of the confidence which you have manifested by electing me president. That I cannot claim to have done such meritorious work in the ranks as to deserve the honor of promotion serves only to heighten this feeling and to make me the more anxious to serve worthily.

To have carried on successfully for so many years, not only through fair weather, but through storms which seemed to endanger its very existence; is strong testimony to the usefulness of the Tri-State Medical Association, and to the place which it holds in the hearts of the medical profession of the three states; nevertheless I shall inquire if it may not be made of even greater value both to the profession and to the public. A great many changes have taken place since that August day nearly a third of a century ago when a group of men met at this same delightful seaside resort for the purpose of organizing a society which would bring into more intimate communion the physicians of the two Carolinas and Virginia who are bound together by so many common ties of tradition and kinship, as well as raise the standard of medical culture and practice in this section of the country. During the years which have intervened since then knowledge has increased with extraordinary rapidity in every field of human endeavor altering materially our intellectual environment and producing social and economic changes which have modified more or less profoundly the very character of our civilization. This growth of knowledge which has altered the viewpoints from which we regard so many things could not fail to affect both the theory and the practice of

medicine, for in every age medical culture has ebbed and flowed with the tide of general culture. New problems have arisen through the necessity of adjustment to new conditions; and new applications have been given to old problems.

Let your imagination carry you back to the summer of 1897 when this association was born. It was the year before the Spanish War, with its tragedy of the military camps, and two years before Sir Almroth Wright introduced preventive inoculation with dead typhoid bacilli; it was the year in which Shiga discovered the bacillus of dysentery, in which Ronald Ross announced the mosquito transmission of the malarial fevers, and the Curies the discovery of radium; the cause of the grave anemia so widely spread through the southern states was not yet understood; yellow fever was still a terrible and a baffling scourge; the manner of acquiring the African sleeping sickness had not been revealed; Schaudinn had not yet discovered the *spirochaeta pallida*; the Wassermann test and Ehrlich's 606 were still to be worked out; Gregor Mendel's revolutionary observations had not been resurrected by DeVries; Einthoven had not introduced the string galvanometer, nor Atwater the respiration calorimeter; Takamine had not isolated adrenalin, nor Banting insulin; the work of the Dicks, the Schick test and the use of toxin-antitoxin were still many years in the future; Freud had not yet stirred our imagination with his fascinating hypotheses of sex repression and dream interpretation.

Thus discovery has followed discovery and hypothesis has followed hypothesis in rapid succession, broadening our horizon, giving depth to our vision, and increasing our ability



to prevent and to cure disease. Because of these discoveries great things have been accomplished. Armies no longer dread typhoid fever and dysentery; the diagnosis and the treatment of syphilis have been wonderfully advanced; instruments of precision have added to our knowledge of cardiac pathology Mendelism has thrown new light upon obscure eugenic problems; the salvage of infant lives has lengthened the average span of life; the stamping out of yellow fever, the control of hookworm anemia and the reclamation of many waste places of the earth for human use and habitation have contributed to the accumulation of wealth and to the advancement of civilization as well as to the lessening of human suffering over extensive areas. But apparently with it all we have not yet attained to a full realization of our newly acquired powers, or else we are guilty of singular neglect in their use, for malaria continues to be widely prevalent, about 700,000 cases occurring annually in the United States; typhoid fever is not yet extinct; children still die of preventable diseases; the mortality of childbirth remains scandalously high; syphilis and gonorrhea are uncontrolled; the unfit still reproduce their kind to plague society with inefficiency and crime. These are facts we well may ponder. The question asked years ago by Edward, Prince of Wales, about tuberculosis still is pertinent in connection with these conditions: "If preventable why not prevented?"

Together with these additions to our knowledge other important developments have taken place within this fruitful period which have affected conspicuously the practice of medicine and the relations of medicine to society. I refer particularly to the educational movement. Through the influence of the Council on Medical Education of the American Medical Association great and important changes have been made in our educational system. Standards of general culture and of technical training have been raised; many medical schools which were unable to meet the new requirements have been forced out of existence, and the number of graduates has been considerably reduced. As a consequence of these changes new problems both medical and social have been introduced.

The amount of knowledge which at the

present time constitutes our essential medical equipment has become so vast that in the effort to impart it we run the risk of clogging the mental machinery by the quantity of material forced into it, thus impairing the quality of the finished product. How to select and to coordinate so as to ensure adequate knowledge and at the same time promote the habit of constructive thinking is a serious problem and one to which the colleges are giving earnest thought. Another phenomenon which is largely the outcome of the new conditions and which is causing no little concern is the growth of specialism. The impossibility of acquiring more than a limited portion of the immense mass of facts and methods of modern medicine has led to intensive study within restricted fields, or specialization. No doubt an economic consideration often is a determining influence in directing a young man's entrance into a specialty, but medical specialization is only one aspect of a general tendency which modern educational conditions make imperative. Many years ago the entomologist Bates said that as a young man his ambition was to be a naturalist, but in his maturer years he found that it was necessary to restrict himself to entomology if he expected to accomplish anything in his chosen field, and now in his old age he would be satisfied if he felt he had mastered a single genus of the coleoptera. There is specialism in law, in engineering, in agriculture because the growth of knowledge and social conditions demand it; and similar considerations compel specialization in medicine, although it is probable that the specialties are filling more rapidly than the needs of society require. Dr. Weiskotten's statistics show that the graduates who enter specialties without a preliminary time spent in general practice increased in five years from 33.4 per cent to 53.7 per cent. Even if these figures are not wholly correct on account of incomplete data they nevertheless are striking and significant. But we may derive some comfort from the thought that perhaps after all the situation is not as disturbing as may appear on the surface, for we may assume that the multiplication of specialists in a given field would in time bring about a general lowering of their economic status which would have the effect of driving the least successful back into less restricted practice; so it is not likely



that the general practitioner will be entirely displaced by the specialist. However, the volume of knowledge and the introduction of many new methods of examination which require special technical skill have made a certain amount of division of labor essential, since it is manifestly impossible for unit service to be adequate and efficient under these conditions. In many cities the number of general practitioners—using the term in its true meaning—is diminishing, the family practice being largely divided between the internist, the obstetrician, the pediatrician, the ophthalmologist and oto-laryngologist, with occasional use for the surgeon; an arrangement which unquestionably conduces to better service. In small communities this is often impracticable, although a certain amount of division of practice and team work is possible and frequently is carried out to the betterment of the service rendered the community. In these modern changes and readjustments, what of the old type of family doctor, who has been idealized so often in prose and verse and who still holds a place of affection and trust in the hearts of people? The M. Benassis and the Dr. McClures have rendered valuable service to the civilization of which they were a product; but civilization has changed and with this change have come new ideals and new requirements, although in its main outlines human history never alters and the fundamental needs of man always are the same. Should he pass from the scene something will be lost, but more will be gained. With its new power medicine has acquired also a truer vision and places efficient service above all other considerations.

A very serious phase of the general situation is the problem of providing adequate and properly trained medical attendance for rural communities. This problem unquestionably is a grave one, and at present there seems to be no satisfying solution. The more advanced education which is now obligatory and its greater cost, the increasing number of specialists and their greater accessibility, the value of team work and fellowship which young men learn in school and in the hospital, together with economic considerations, continue to drive the present day graduates in medicine away from the country. The number of letters which come to

my office calling attention to good country openings and begging for help bear witness to the need. But the country as well as the town and city has learned something of medical values and is no longer satisfied with incompetency, yet is unable to offer sufficient inducements to attract competent men. These several problems are largely economic and doubtless will be settled in the course of time. Readjustment is necessary in times of rapid change such as this in which we live, but readjustment is slow and in the process there will be much suffering. Everything does not move with the same speed and hence some things seem out of gear. Side by side exist enlightenment and superstition, progress and conservatism. Adjustments of an old social order do not accord with the needs of a new system. This is the situation with regard to modern medicine. But whatever changes the future may bring about in the effort to adapt medical practice to the requirements of the people, we may assume that in the existing social order there is need still for the general practitioner, a need which is recognized by the schools which are giving less attention to training in specialties and are laying increasing emphasis upon preparing graduates for general practice. The general practitioner, however, must catch the broad vision of modern medicine; he must grow in scientific ability and in the realization of his responsibilities. The frequency with which preventable diseases are not prevented, the large number of women who die in childbirth every year, the many cases of cancer which are referred to the surgeon too late for relief, the frequency with which early tuberculosis is overlooked, bear tragic witness to the failure to make proper use of our knowledge. This may be due to ignorance, which sometimes it is true is unavoidable by reason of existing limitations, but which often is preventable; it may be due to carelessness which always is inexcusable; it may be on account of a lack of cooperation between physicians or between physicians and the public. These things concern us individually and as a society, and we may ask with profit if it is not an obligation to attempt to improve the situation.

The purposes for which a medical society is organized are primarily scientific culture and secondarily social intercourse. The re-

newing of old friendships and the forming of new ones, the converse around the luncheon table and in lobbies, or the communion of congenial souls on the golf course, are important functions and always profitable; but, if this were all, there would be scant excuse for our annual gatherings. Our primary aim is to increase our knowledge and to improve the quality of medical practice, both as applies to the general practitioner and to the specialist. The annual meeting should constitute a forum for the spread of knowledge, and the interchange of thought, and to do this most effectively we must study the needs of our people and catch the spirit of our time. Some of the outstanding men with whom I have talked say frankly that the Tri-State is not filling a needed place; that there are many societies already and there seems no occasion to join just one more. Perhaps these criticisms are not altogether just, and perhaps they who criticize are the losers, but controversy is vain. The only compelling argument with which to answer criticism is a program which supplies a need that is felt and gives what cannot be obtained in the local societies. To this end therefore we should give serious thought to the making of a program. I would propose in the first place for its enrichment that clinics be made an integral part of the annual meeting. There is no more inspiring method of instruction than clinical demonstration in the hands of a master, where it possesses a value with which no other mode of approach can compare. Wherever clinics are held the crowds of eager faces bear testimony to their popularity and to their value. In our territory there are many cities whose abundant clinical material would afford opportunity for wonderful sessions and the utilization of this material would bring new life into our association. The great popularity of the so-called dry clinic points to another feature which we may use with profit. The time devoted to clinics is a matter for discussion but they should be systematized and arranged so as to cover every field of general medicine. A clinical-pathological conference could always be conducted and is strongly urged. Undoubtedly it would prove a most attractive and instructive addition to any program. The number of papers to be read should be limited, for an overcrowded pro-

gram defeats its purpose by preventing opportunity for discussion which so often is the source of the greatest stimulus and profit. This restriction of the number of papers also would enable a selection to be made which both would be an incentive for the writer to put forth his best and would insure always a program of sustained high grade. A symposium, or possibly two, with carefully selected and coordinated papers should form a part of each meeting. This idea seems to have been in the minds of the founders of the Tri-State when they incorporated in the constitution a provision for the discussion of a special subject selected at the previous meeting, a plan which has been followed this year in the admirable symposium on obstetrics arranged by our secretary.

An evening session open to the public should form a part of every meeting. The public are in need of instruction, and the responsibility for giving it rests upon us of the medical profession. The lack of cooperation on the part of the public about which we often complain is due to want of knowledge and understanding, and that it is so is largely our own fault. Information given under the auspices of such a representative organization as the Tri-State would carry the weight of authority and could not fail to produce an impression on the public which would be most helpful. Such subjects as cancer, periodic examinations, the value of autopsies, cultism, hospitalization, could be discussed most productively.

These suggestions contain no new thought; in presenting them I am attempting to embody the spirit and the needs of a new day. If faithfully carried out, I believe they would make the Tri-State a more potent and effective instrument for medical progress both to the physicians and to the public of the three states, thereby increasing its usefulness and its popularity. Such a course would lay the foundation for the building of a powerful organization in this southeastern section of the country which would rival similar organizations in other sections. It aims to develop the clinic as fundamental, but along different lines than was proposed last year by my predecessor. The development of a program of such breadth as I have outlined should be entrusted to a program committee of whom the president and secretary should

be members. Three days probably will be required to make the program effective but its richness and variety will make the additional day of small account in comparison with the increased value of our meeting.

#### REMARKS ON PRESIDENT'S ADDRESS

DR. J. ALLISON HODGES, Richmond:

If it is in order, I should like to discuss some of the recommendations made from the chair. I know this is a little unusual, but it is my interest in this association that makes me bold to rise to discuss the questions which have been proposed. Probably the activating thought that has caused me to do this is the remark in this scholarly and able and judicious paper that there has been some discussion, in this territory possibly, as to the usefulness of this association at the present time, in view of the great number of associations. I rise to assert again that I agree heartily with everything you have said, Mr. President; and I am glad you have mentioned the fact that there may be a doubt in somebody's mind of the utility of this association, because it arouses me to say that thirty-one years ago this summer it was my pleasure and privilege to preside over the original meeting that formed this association, and the men who were behind it then were, just as the president is today, sincerely trying to do a service to this part of our southern land. I am rising here tonight to say this—as Dr. Wilson has spoken of the struggles that this association has had in all the years that have gone—I am rising to say that there have been struggles and there have been hard times; and I am glad that he has rather probed us tonight on our want of enthusiasm for this association, so that it may arouse us anew right here at the birthplace of it, so that each of us will make a resolution, man for man and doctor for doctor, that we will stand shoulder to shoulder and march on to make this association worthy of the great objects for which it was started. I hope you will never again hear the remark that there is no necessity for such an institution as this, Mr. President, because I am sure you are as much interested in it as anyone here; and I am glad you brought it up, if it does nothing more than stir some others as it has stirred me to think that there could be doubt

in any man's mind about this bringing together, not of doctors alone, but of neighbors, of man with man, here to join and do their part for the progress of southern scientific medicine. I say to you that I believe really the thought of the fear that this institution is not doing what it was founded to do may be the very reason for bringing us together and welding us together in a greater and better effort to make it what it should be. It was the intention of the founders of this institution first to form a fellowship for human service. I believe that this was one of the greatest steps in bringing southern men together, for even the great southern society of medicine, if I am not mistaken, followed this. I believe this association has been the means, more than any other single thing in my professional life, in making us know the good that is around us, even in our own brother doctors, and in making us better fitted for the service of humankind, which is our greatest service. So I am glad that you have allowed me the privilege to say these few words here on the very birth spot, as I have said before, of this congregation of men who are devoted to science and humanity; and I hope we shall bring to life again the spirit that actuated its founders. I believe, carrying your suggestion one step further, that it should be the duty of this body of men, scientific men, to study especially the problems that are peculiar to this southern land. I believe in that way, in addition to what you have said, it will be of the greatest possible benefit not only to us who have come together and recognized the good that is in us but to other people. Now, in conclusion I wish to say this, and I offer it as a resolution, that here tonight we pledge ourselves by a rising vote to carry out the suggestions of your paper, Mr. President, so that at our next annual meeting we shall see a bigger and more representative audience even than we have here tonight, all of us bent and determined that nevermore are we going to question the necessity of such an organization, the only one of its kind I know of, that makes me shake hands with my brother from South Carolina and my brother from North Carolina and here on this floor exchange ideas with him that are for the benefit of all. I move the adoption of this resolution,

Motion seconded by Dr. J. E. Smithwick, of Jamesville, N. C.

PRESIDENT WILSON:

I am sure if everybody feels and manifests the wonderful enthusiasm of Dr. Hodges we shall all be stirred by his words and we shall make this Tri-State the wonderful institution its founders meant it to be.

Motion carried by unanimous rising vote.

DR. JAMES K. HALL, Richmond:

I think utterances that are inspiring must also have been inspired, and I am glad the presidential address so aroused the great old Carolinian who presided at the organization of this body thirty-one years ago. I am wondering, to make the suggestions of the

president and of Dr. Hodges concrete and workable, if it would be out of order to move that the president be authorized tonight to designate a committee of three or five members to consider the advisability of putting into effect next year at the meeting in North Carolina the suggestions of President Wilson, namely, that clinics be held, that symposia be held, that a night session open to the public be held. I think if the council be authorized by the body to organize such a committee, the committee might consider these suggestions of President Wilson and report their recommendations to the business session.

Motion seconded by Dr. J. E. S. Davidson, of Charlotte, N. C., and carried.





# AN ADDRESS on THE TREATMENT OF PNEUMONIA\*

By  
INVITED GUEST JOSEPH L. MILLER, M.D.  
Clinical Professor of Medicine, Rush Medical College  
Chicago

## INTRODUCTION

The President:

The first speaker this evening I am sure is well known to all of you through his contributions to the advancement of medical knowledge. One of the leading internists of our country, he is, I might say, in the conservative wing of the party. I have the pleasure of introducing Dr. Joseph L. Miller, Clinical Professor of Medicine in the Rush Medical School.

Dr. Miller:

Mr. President and members of the Tri-State Medical Association: I wish first to express to you all my pleasure at being able to meet with you. It has been a day which I shall long remember. I have learned more today about that very delightful, unique, and beautiful thing, southern hospitality. I have met some of your charming wives. I have enjoyed your scientific meeting—not only enjoyed it but carried away some useful knowledge. I spent a very delightful hour today with your philosopher and poet. I sat entranced while he rendered his famous poem. Whether it is the only famous poem of his I do not know, but his admiring friends tell me the fame of this poem has spread across the seas to Hong Kong, Cairo, and I presume to Mandalay. My only regret this evening is that I was not born in the south.

Mr. Chairman, I appreciate your very gracious introduction. I shall make no apologies for some of the things you said about me, because all of your audience here know that a presiding officer on an occasion like this can not follow the example of the father of his country after he attacked the cherry tree.

## THE ADDRESS

It is always difficult to arrive at a correct therapeutic conclusion. The physician is, and should be, a therapeutic optimist, with faith in his remedies and hope eternal that the most recent new remedy will act as the magic wand he has long sought. This very optimism may bias his conclusion. Sir William Osler has well expressed this. "In therapy the placid faith of the believer, not the fighting faith of the aggressive doubter has been our besetting sin."

We have only to review the various highly lauded therapeutic measures that have had their day, then were gradually abandoned; the best evidence of their futility. Personal impressions rather than carefully recorded observations are responsible for many of these errors. The study of parallel series, one treated, the other untreated, is just as essential in arriving at proper therapeutic conclusions as are the four rules of Koch in regard to the relation of a certain microorganism to a specific disease.

It is not enough that we treat our pneumonia this year by a special method, and then compare our results with last year's series. Where a large clinical material is available, it can be noted that we have through the winter months recurrent epidemics of pneumonia, some mild, others severe. The mortality during different years at Cook County Hospital has varied by more than 50 per cent, and the mortality during different consecutive months on my service in the hospital has varied an equal amount. The treated and untreated series must parallel each other. To compare the mortality of private patients with that of a general hospital is valueless, as only the critically ill are usually sent to the hospital; the mild cases not requiring special nursing are cared for at home.

The age of the patient in the two series should be approximately the same. The mor-

---

\*Delivered before the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th.

tality in the second decade is at least not more than a quarter of that in the fifth decade. There were 6,258 deaths from primary lobar pneumonia in the United States camps during 1917, with a mortality of only 10.59 per cent. The age was a large factor in this low mortality. The prompt sending of the patient to the hospital with the first appearance of symptoms may also have played a role.

The alcoholics in each series should be considered, as even the moderate use of alcohol raises the mortality.

Race must also be considered, the mortality in negroes being approximately 25 per cent higher than in whites of the same age and habits.

Furthermore, the series studied must be large to lessen as far as possible the source of errors, and even then strange things may happen. Cook County Hospital with patients assigned to the various medical services in rotation, with exactly similar medical units, offers a good opportunity to treat in a special manner the patients on one service and use the other male medical services as controls. From the first of October to the following May 80 to 100 pneumonia patients are received on each service. The routine treatment is morphine for pain, plenty of fluids and fresh air. All the patients on my service during one winter were treated with quinine and urea. During this period 80 patients were so treated. The mortality was then compared with approximately 350 controls. The average mortality was 22 per cent. Our mortality was 22.5 per cent—the same. On one service in this group with 78 patients, the mortality was only 11 per cent. You can readily see what might have happened if the patients in this ward had received special treatment.

I have not given this long preamble for the purpose of discouraging any physician in the study of pneumonia mortality. I only wish to call attention to some of the difficulties attending such a study. Failure to follow a proper control method accounts for the large number of drugs, sera, vaccines, etc., that have raised our hopes, only to prove disappointing and later to be dropped. A brief analysis of some of these remedies will be given in this review following an account of the symptomatic treatment.

Before undertaking this just a word about preventative measures; without attempting to discuss general measures, we will go at once to the question of preventive inoculation. It has been shown that monkeys can be immunized to one strain by using massive doses of pneumococci. The duration of this protection has not been definitely determined. During the late war group immunization was attempted by Cecil and Austin with unconvincing results. In this group, types of pneumonia to which the soldier was not immunized were also less frequent. The frequent recurrence of pneumonia in the same individual would indicate that the immunity is not of long duration. In fact, there is a rather widespread belief that an attack of pneumonia renders an individual more prone to the disease. All we can state at present is that to date no worth-while method of immunization has been reported.

#### PLEURAL PAIN

The pleural pain of pneumonia, in addition to actual discomfort, prevents sleep, interferes with deep breathing, and may thus be an important factor in cyanosis. It can best be relieved by morphine either by mouth or hypodermically, using the minimum amount required to give relief. Excessive doses depress the respiratory centre. It was formerly thought that morphine impaired the excretory function of the kidney but this has been shown to be untrue when it is given in reasonable doses. Rarely is a pneumonia patient intolerant of morphine. The morphine, in addition to relieving pain, slows the respiration by permitting deep breathing, induces sleep and prevents excessive coughing. The strapping of the chest with adhesive tape prevents expansion of the chest. The morphine relieves the pain and permits the patient to inhale deeply.

#### EXPECTORANTS

The old nauseating expectorant mixtures with ammonia chlorid or carbonate are gradually being discontinued. It has been shown in non-nauseating doses they do not thin the bronchial secretion. In fact, their only physiological effect is to disturb the patient's stomach. It is a popular belief that the patient should expectorate freely. The exudate which fills the alveoli is probably never expectorated but is reabsorbed following the

crises. It is not uncommon to have a patient go through the disease with little or no expectoration. The expectoration in pneumonia arises chiefly from the associated bronchitis. The racking cough, however, should be controlled. It fatigues the patient, is painful, prevents sleep and is a strain on the right heart. The morphine for the pleural pain will check the cough and further medication is not required. In case the patient does not require morphine for the pain, but needs something to control the cough,  $\frac{1}{4}$  to  $\frac{1}{2}$  grain of codein sulphate with a simple elixir will answer the purpose.

#### ANTIPIRETTICS

Our forefathers fought fever and this attitude has not entirely died out. Sir Thomas Sydenham, almost two hundred years ago, taught that "fever is nature's instrument," and the immunologists have shown that he was right. It is nature's instrument, as immune bodies are formed more rapidly in its presence. Only when it becomes excessive does it become harmful. Fortunately antipyretics are now rarely used in pneumonia. The layman fears fever and may urge us to abate it. He is usually easily convinced if we will only explain why it is unwise to interfere with nature's effort. Long after the antipyretics were banished, cold baths were used for the same purpose. When properly given they might stimulate the patient and thus make him more comfortable, but the aim of the bath was to reduce fever. There is no reason to believe that reduction of fever by this means benefits the patient.

#### ALCOHOL

There has been a great deal of discussion pro and con on the use of alcohol in this disease. I believe that it is safe to say that physiologically alcohol is always a depressant. Even a tablespoonful of whiskey will lower both systolic and diastolic pressure in pneumonia. This period of cardio-vascular depression may persist for an hour. It has also been shown that it acts unfavorably in the development of immunity. In several states, alcohol cannot be prescribed by the physician. As yet there has not been a protest by the profession of these states. At Cook County Hospital in the neighborhood of 1,200 pneumonias are treated annually. Since prohibition became a law no alcohol has been

used and the death rate has not increased.

#### PROTECTION OF THE CHEST

The use of the cotton jacket and antiphlogistine encasement of the chest should, I believe, be discouraged. Used with the idea of protecting the lungs from cold they only make the patient uncomfortable and add to the load he must lift with each inspiration.

#### FRESH AIR TREATMENT OF PNEUMONIA

The fresh air treatment of pneumonia is often misapplied. Not infrequently the windows are raised and the sick bed placed in a corner of the room. In addition a screen may be placed about the bed to keep the patient away from the draught. The pneumonia patient breathing forty times a minute re-breathes a large part of his expired air. The object of the fresh air treatment is to prevent this. The only way it can be accomplished is to have a current of air passing over the patient in order that the expired air may be rapidly replaced by fresh air. If the patient is out of doors this is easily attained, as there is usually sufficient movement in the air to prevent re-breathing. A simple way to bring this about indoors is to raise a window; if in winter an inch is sufficient. If possible raise another window on the opposite side of the room, thus creating a draught, the intensity of which can be regulated by the size of the opening. The bed is then drawn out in the room so that the current of air passes over the patient's face. The popular fear of draught can usually be overcome by explaining to the family what you expect to accomplish. By following out this plan it is possible to give a patient plenty of fresh air without making the room uncomfortably cold.

#### OXYGEN

It is difficult to state whether the administration of oxygen, as usually conducted, is ever a life-saving measure. Where an oxygen tent is used and the maximum benefit obtained, there is evidence that it may occasionally be a life-saver. Several types of masks have been devised for bedside use. A simple and fairly satisfactory method is to pass a catheter into the nostril and administer the oxygen in this manner. This permits the patient to breathe in the outside air freely. The ordinary funnel is not satisfactory, as it annoys the patient and interferes with free



intake of outside air.

#### DIGITALIS

The value of digitalis in pneumonia is still a mooted question. We have no evidence that it has saved lives. It is, however, extensively used and if given with care is at least harmless.

#### CAFFEIN AND CAMPHOR

With the beginning of impaired heart action, caffein or camphor are quite generally employed. How much benefit is derived from these it is difficult to determine. In my experience the failing heart in pneumonia is little affected by any cardiac drug. It is very questionable whether camphor should be listed as a cardiac stimulant.

#### DIET

There is little to be said of the diet in this disease. Abundance of fluids and fruit juices may be given. A combination of liquid and soft diet is satisfactory.

#### SPECIFIC REMEDIES

We will pass now from the symptomatic treatment of pneumonia to a review of so-called specific agents. There is one drug, quinine, which for the past fifty years has been introduced repeatedly as a specific remedy. It reappeared a few years ago as ethylhydrocuprein or optochin, and still later in the form of quinine and urea. Optochin will protect a white mouse from several times the lethal dose of pneumococci, if administered just preceding or with the inoculation. It is valueless, however, when the infection is established. As we might expect from this experimental work, it has no effect on pneumonia in man. I have already referred to the failure to get results with quinine and urea. Camphor will protect mice but fails to modify the course of the disease in man. A number of sera, vaccines and so-called antibody solutions have been introduced and will be briefly reviewed. Specific vaccine therapy has failed. At present mixed vaccines, in large doses intramuscularly, are being quite extensively employed. There is some evidence that they are beneficial. The mere fact that their use is not in accord with a present-day theory should not condemn them. Clinical observations should be made without any preformed theory. Claude Bernard said, "We must observe without any preconceived

ideas, just listen to nature and write her dictation."

Any agent given intravenously that will cause a chill may bring on an immediate detoxication. The patient feels well but the lung, remains solid until the regular time for the crisis. We used a single dose of typhoid vaccine intravenously in fifteen consecutive early pneumonias, under forty-eight hours; in six of these after a violent febrile reaction, the temperature dropped to normal. In only three did it remain practically normal; the others within twenty-four hours again became febrile and the disease ran an unmodified course. In three, or 20 per cent, the patient was completely detoxicated, but resolution did not begin until the usual period had elapsed. The same mechanism is probably responsible for the results observed after mercurochrome, Huntoon's antibody solution, and sera that give rise to a chill. All of these, I believe, can be classed as non-specific agents. The reactions are not free from danger, and although we did not observe any serious consequences from the typhoid vaccine, we discontinued using it after we had observed that it would detoxicate the patient in the same manner as some of the so-called specific agents.

The Rockefeller Institute serum for type I pneumococcus has not proven satisfactory. Type I during a period when typing was done at the Cook County Hospital had a mortality of only 13 per cent, compared with 26 per cent for the entire group. During the late war all base hospitals were supplied with the serum and orders were issued to use it in type I. As our laboratory force was inadequate no typing was done and no serum used. Our mortality in 276 lobar pneumonias was only 10.6 per cent, or the same as the other hospitals where serum was employed. J. A. Capps for several years used Kyes' immunized chicken serum on his service at Cook County Hospital, taking the other services as controls. Apparently the mortality was lowered. This serum was given intravenously and frequently gave rise to a chill. Kyes later removed the fibrin following which there was no reaction; but the beneficial results also were lacking. My experience with immunized sheep serum confirmed this experience. When the serum injected was followed by a chill, the disease was modified. When



the substance responsible for the chill was removed the serum became inert.

We have already referred to Huntoon's antibody solution. This when given intravenously gave a marked fibrile reaction. Lewis Connor and Cecil both showed that apparently the mortality was lower after its use. The beneficial results were not, however, confined to the types I, II, and III, but were also noted in type IV, and the solution did not contain antibodies for this type. The reaction was so severe that they both advised against its general use. When given subcutaneously even in enormous doses (1500 c.c.) it was without effect.

Summing up this phase of the subject it can only be said that up to the present, specific treatment is of little, if any, value in treating pneumonia. Little attempt will be made to discuss the treatment of the various complications of pneumonia. Two only will be considered:

#### TYMPANITES AND EMPYEMA

The development of tympanites in pneumonia is of grave omen. It is quite probably due to a paralytic ileus of toxic origin and efforts at combating it are usually futile. Stupes and enemas may be tried. In my experience pituitrin rarely gives relief. In fact it does not seem to yield to any form of treatment. The experience in the late war led to real improvement in treating empyema. Thanks to the efforts of the Pneumonia Commission, it was determined that a small opening through the chest wall did not produce collapse of the lung. Free expansion of the lung is an important factor in the drainage

of the pleural cavity and furthermore prevents pleural adhesion. A small opening has replaced rib resection to the lasting benefit of the patient.

This brief review of the treatment of pneumonia indicates that the clinical advances during the past quarter of a century are chiefly along the lines of less medication. The cardiac depressants, aconite and allied drugs, are no longer found at the bedside; nauseating cough mixtures have been largely abandoned along with antipyretics; the overheated chamber with closed windows and excessive blankets and comforters have gone—let us hope, never to return. Relief from pain, adequate rest, fresh air and good nursing are now the mainstays of treatment. Expectantly we await a genius like Behring who banished the danger of diphtheria to lead us into the promised land, where hopefulness will replace helplessness. In the meantime let us not forget that nature is a wonderful healer and we should be extremely careful not to interfere with her efforts by meddling therapy. The advice given by Sir Thomas Sydenham is still applicable, "When I find that from the medicine which I have thought fit to use I am unable to give the patient reason to expect any definite benefit, I do no more than my duty as an honest conscientious physician if I just do nothing at all." In this statement he was referring solely to drug therapy. However, he no doubt maintained a keen and watchful interest in the patient, ever solicitous of his comfort and gave words of cheer and hopefulness to lighten the hearts of the family and encourage the invalid in his fight.



## MENTAL DISEASE COMPLICATING PREGNANCY AND THE MANAGEMENT OF THE CASE\*

O. B. DARDEN, M.D., Richmond, Va.

All of us are more or less familiar with the various physical changes that take place in the pregnant woman. Yet I wonder how many of us take into account the concomitant physiologic changes made necessary in order to maintain a metabolic equilibrium. Let us consider briefly some of these readjustments to which the gravid woman must adapt herself. There is a marked change in size and weight with increasing discomfort from the mechanical interference with the normal function of several organs. For example, pressure from the enlarged uterus alone is responsible for some stasis in the circulation of the lower extremities, some occlusion of the ureter and some bladder irritation which may eventually lead to serious trouble. Then, too, associated with this increase in the physical proportions of the woman is that uncomfortable and annoying symptom—backache.

There are definite changes in the endocrine system, as evidenced by a hyperplasia of the mammary substance, a hyperplasia of the thyroid gland, an increase in output of the pituitary gland, and hyperfunction of the adrenal glands. In brief, therefore, it might be said that there is an increased demand made upon the entire endocrine system during pregnancy.

The general metabolism is likewise affected and is so changed as to meet the demands made upon the system. The pregnant condition may be said, therefore, to bring about an increase in the metabolic processes of the female organism resulting in part, at any rate, from the hyperplasia in the various units of the endocrine system. Metabolic studies made on pregnant women indicate that they show a capacity for storing the essential elements of their diet.

The alimentary tract comes in for its part in the picture of bizarre changes incident to pregnancy. In the earlier stage there is the familiar "morning sickness," or "nausea and vomiting" with its depleting and exhaustive

effect upon the expectant mother. Later, there is a tendency to constipation and absorption of toxins with the resultant headaches and feeling of lethargy and lassitude.

Aside from these physiologic and anatomic changes in the various tissues of the body there are many obvious nervous and mental disturbances so frequently found that they may be looked upon as a normal reaction to the pregnant state. Text books describe various emotional disturbances manifested by excitability, irritability, depression and varying moods. Many show a decided change in disposition—the angelic ones becoming ill-tempered, and the mean, disagreeable ones becoming angelic and sweet-tempered. Rucker believes this emotional upheaval explains why many good, respectable women seek to have abortions performed while in one state of mind, but later would hold in contempt the obstetrician who dared terminate the pregnancy.

Certain features of the pregnant state have a rather profound exhausting effect upon the expectant mother. The problem of receiving sufficient sleep is often a difficult one to solve, and not infrequently the lack of sleep must be considered as an exhaustive factor. Particularly in the latter months of pregnancy is it difficult to get proper rest, and fatigue from a lack of sleep and rest play an important part in the woman's condition. It is at this stage, too, that the labored breathing has its most telling effect.

The responsibility of motherhood, also, must be borne in mind. It can be readily understood how the pregnant woman is filled with expectation, hope and joy on the one hand; yet at the same time she is anxious and disturbed by doubt, apprehension, fear and the terror of motherhood, and not uncommonly is concerned as to the sex of the unborn child.

Environmental factors are sometimes of great importance in the production of mental disorders and pregnancy often adds to the difficulties of the already maladjusted individual.

\*Read as part of the Symposium on The Reduction of Maternal Mortality held by the Tri-State Medical Association of the Carolinas and Virginia. Virginia Beach, Va., February 14th and 15th.

With this brief review of the anatomic, physiologic, and emotional changes that occur incident to pregnancy and its allied states—parturition and lactation—it is easy to see how the condition makes heavy demands upon the individual organs within the body and upon the organism as a whole. It diminishes the woman's vitality, debilitates her entire organism, and has a decidedly depleting effect resulting in a most hazardous and potentially dangerous state of body. The watchful obstetrician recognizes the grave possibilities of danger and keeps the pregnant woman under close observation lest some unexpected and unlooked-for complication should set in. Particularly is he fearful that the disturbed metabolism might interfere with the normal function of the kidney and lead to disaster.

The physical and mental stress and strain with the exhaustive factors involved in pregnancy necessitate an enormous readjustment to compensate for the various changes that have been brought about in the normal woman. Add to this picture a tainted heredity, or a predisposition to mental disease, and we have a most fertile soil for the development of a genuine psychosis. It is a fact that under just such conditions true mental disorders develop in pregnant women. Formerly these disorders were placed in the category of complications of pregnancy and a nomenclature adopted according to the stage of the reproduction period in which the illness developed, without any attempt to classify the psychosis. For example, all mental upsets, irrespective of the varying symptoms, were classed as:—*insanity of pregnancy*; *puerperal insanity*; or *lactational insanity*. Later puerperal insanity held the attention of writers for a while because most disorders develop at this stage and it was thought that a definite relationship existed between the puerperium and the psychosis.

Most modern writers agree that there is no psychosis characteristic of pregnancy; and, diagnostically, they are now classified in one of the well-defined groups of mental disorders. While any psychosis may develop during pregnancy the great majority may be placed in one of the following three groups:

1. toxic-exhaustive group,
2. manic-depressive group,
3. dementia praecox group.

The first group includes those cases variously described as *deliria*, acute delirious mania, exhaustion psychosis, and acute confusional insanity. The name given to this class is used to signify a condition of acute confusion arising from profound exhaustion, or from toxemia, or from a combination of the two conditions. In some of these cases the psychosis develops in direct relation to a toxin and is not dependent upon a hereditary tendency. In others no demonstrable source of infection can be found and the mental disorder seems to result from a poor heredity, with a profound exhaustion factor incident to pregnancy and labor. This latter class tends to break down during the first pregnancy and the prognosis is not so good as in the group in which the psychosis is dependent upon some toxin. Recovery is expected in the first class, though convalescence is usually more protracted than would be expected in a purely toxic psychosis.

*Manic-depressive Group.*—The cases which fall within this group do not differ essentially from manic-depressive psychoses occurring independent of pregnancy. The characteristic features of this type of psychosis are:—Emotional disturbance, a tendency to recur, absence of mental deterioration, usually an innate constitutional predisposition. Moreover, in the manic form there is psychomotor activity and flight of ideas; while in the depressive phase there is a definite psychomotor retardation, self-condemnation, with a tendency to suicide. As a rule, these patients show a definite psychopathic tendency or a predisposition to mental disease. This type of mental disorder may develop at any stage of pregnancy, depending upon the degree of predisposition to mental disease itself, and also at what time the stress and strain become sufficient to overwhelm the natural resistance to exogenous etiological factors. Therefore, we expect such disorders to show up late in pregnancy or during the puerperium, at which time the demands upon the woman's vitality have become greatest. Likewise, this class of mental upheaval may be precipitated either at the first pregnancy or at any subsequent reproducing period depending upon the foregoing factors. For the same reason we see some women who develop a definite psychosis at the corresponding time during or following each pregnancy. Even such cases as this do

not prove by any means that pregnancy is the sole cause of the disease, but only that it is of a sufficient power to overthrow the woman's mental equilibrium, whereas she has been able to live a normal life until the addition of this definite precipitating factor. It must be remembered, too, that it sometimes happens that a woman may become pregnant when in the early stages of a manic-depressive psychosis. Such a case has recently come under our observation, and neither seemed to interfere markedly with the other, pregnancy terminating at term in a normal child, and the mental aberration running a normal course for such illness to complete recovery.

*The Dementia Praecox Group.*—While dementia praecox usually develops in young people who have been somewhat eccentric or different from other people, it is sometimes ushered in at a more advanced age by some unusual shock or some devitalizing disease. Pregnancy is sometimes the precipitating factor even when the woman has heretofore been thought of as perfectly normal. This condition seems to arise from an inherently impoverished nervous and mental state of some women who are unable to make a suitable adjustment to the pregnant state, or whose instability is unable to withstand the strain and stress necessitated by a readjustment to the new condition imposed during the gravid state. This type of disorder, too, may develop at any stage of pregnancy or even follow a miscarriage. The outlook in the dementia praecox cases is gloomy. We do not expect them to recover.

It must be remembered that a toxic psychosis may be engrafted upon a mental upset of either the manic-depressive or dementia praecox type. In fact, the underlying condition may be completely overshadowed by the toxic features and the true condition may be overlooked until the toxic factors have cleared up. Therefore, we must be careful in offering a prognosis in such conditions, for it may be that we are dealing with a condition wholly unsuspected at first.

Illustrative of this type of case is the following: Mrs. M., aged 27; family history unimportant; as a child did well in school; industrious; over-conscientious; religious, and probably unstable. Gestation and labor normal; eleven days after labor began to accuse the doctor of giving her medicine to make

her have more children; thought the nurse was doping her and hypnotizing her and the children; thought people in the adjoining apartment were against her and putting poison in her food.

When first seen two weeks after delivery she was resistive, difficult to control; dis-oriented in all spheres, had various persecutory delusions. Mechanical restraint became necessary and nasal feedings had to be resorted to. After about a week she began to improve and after three weeks she showed considerable improvement, was quiet the greater part of the time, and had clear intervals but was delusional and confused from time to time. As the toxic features of the disease cleared up the depression was evident though hidden to some extent at first. The depression was characterized by a lack of confidence, a feeling of inferiority and inadequacy, anxiety, apprehension, and fear to meet the conditions at home and a feeling that her husband did not want her. Within nine weeks she began to take a normal interest in her baby, assumed a normal maternal attitude and was discharged as recovered.

Physical examination revealed a mild upper respiratory infection; there was a slight elevation of temperature for a few days. Urinalysis revealed considerable pus and a faint trace of albumin. Within about three weeks the urine had cleared up, paralleling the progressive improvement shown in the clinical picture.

#### MANAGEMENT

The treatment of all cases of mental illness is problematical and their management depends upon several factors involved in the individual case. Our first aim in the treatment of any disease, of course, is prevention. We must adopt, therefore, those measures that might have a tendency to ward off the development of a mental disease in those who are susceptible or psychopathic in their make-up. Our psychotherapeutic efforts must, therefore, be expended in attempting to improve the mental hygiene or to support the normal mental reactions of the pregnant woman. The effect of the mind upon metabolism is well established. Emotional conditions of a hopeful, cheerful kind have a beneficial effect on metabolism, while, on the other hand, depressing emotional conditions have an unwholesome effect. The pregnant woman



may maintain a condition of auto-toxemia on account of her morbid mental state or emotional conditions which dominate her mind. It is in this class of cases that psychotherapy administered as a prophylactic measure is our most reliable therapeutic aid.

Bear points out that pregnant women are impressionable; the mental state should be preserved, therefore, in so far as possible, in an atmosphere of contentment and happiness. They must be protected from gruesome sights, from the accounts of horrible and tragic disasters, and from such emotion-disturbing influences that will add their bit to a mental maladjustment and thereby enhance the opportunity of a frank mental upset in an already overtaxed organism.

The scope of prophylactic treatment might be enlarged and mental hygiene measures adopted even before marriage. People with a bad mental history should be advised not to marry, and women with psychopathic tendencies who have had one breakdown incident to pregnancy should be advised to have no more children. The most effective prophylactic weapons are in the hands of the family physician who, because of the unique position he fills in the families he attends, is in a position to enlighten the ignorant and give sage counsel to those whose erring impulses may otherwise lead them along the pathways of misery. A careful physical examination should be made early and repeated at frequent intervals, with particular attention to focal as well as general infections.

After the development of a frank psychosis the treatment must be considered from two angles according to the stage at which the disorder becomes manifest. If the psychosis develops prior to delivery treatment must be instituted along two lines: (1) obstetrical treatment as indicated by the physical signs; (2) treatment of the psychosis as indicated by mental symptoms. As a rule, recovery does not take place until some time after delivery, and it becomes necessary to protect the unborn child and keep the patient under strict observation, treating appropriately the psychotic symptoms. In the maniacal patients delivery may be premature and the life of the child endangered from neglect or from destruction by its own mother. In melancholic patients suicide must be particularly guarded against. Often in both there is a

refusal of food and nasal feedings must be resorted to. Proper elimination must be obtained. If, on the other hand, the psychosis develops after delivery, treatment can be instituted according to the type of mental disease with fewer handicaps from other influences. In practically all cases the baby and mother should be separated, and the baby put on bottle feedings.

This brings up the important question of abortion. In rare cases of the toxic-exhaustive group in which it is evident that an artificial termination of labor will allay the toxemia and thereby probably save the life of the mother such a procedure should be recommended. It is a well recognized fact that any operative procedure may exaggerate a manic-depressive disorder, and furthermore, it is well known that pregnancy may continue to term in this type of case without harmful effects. The dementia praecox, of course, shows no tendency to clear up after abortion.

#### CONCLUSIONS

1. There is no psychosis characteristic of pregnancy.
2. Any form of mental disease may develop during pregnancy.
3. Environmental difficulties, toxic and exhaustive factors, mental and physical stress and strain have a definite etiological bearing on the psychoses of pregnancy.
4. Prophylaxis affords the best means of treating the mental disorders incident to pregnancy.
5. Abortion is rarely indicated.

#### BIBLIOGRAPHY

- Williams, J. W.: *Obstetrics*, D. Appleton & Co., 1919.
- Ellergy, Reg. S.: Psychoses of the Puerperium, *The Medical Journal of Australia*, 1:287-292, Feb. 26, 1927.
- Munro, H. S.: Psychotherapy in Relation to the Expectant Mother, *Ann. Gyn. and Ped.*, 22:1-6, Jan., 1909.
- Capper, Aaron: The Relation of the Endocrine System to Pregnancy, *American Journal of Ob. and Gyn.*, 11:269-277, Feb., 1926.
- Rucker, M. P.: Personal Communication to the author.
- Kilpatrick, E., and Tilbout, H. M.: A Study of Psychoses Occurring in Relation to Childbirth, *The American Journal of Psychiatry*, 6:145-159, July, 1926.
- Bear, Joseph: Associated Nervous Manifestations and Psychoses in Obstetrics, *Va. Med. Monthly*, June, 1921.

## OCULAR COMPLICATIONS OF PREGNANCY AND THEIR MANAGEMENT\*

JOSEPH A. WHITE, M.D., F.A.C.S.

Professor of Ophthalmology and Oto-Laryngology, Medical College of Virginia  
Richmond

Ocular disturbances during pregnancy are not uncommon and are of great importance, because of the danger of blindness on the one hand and as an indication of danger to life on the other.

Whilst all or any of the ocular structures may be affected during this anxious period, it must be borne in mind that in many cases the eye trouble may have preceded the pregnancy. The commonest ocular complication is the so-called albuminuric retinitis, the urmic neuro-retinitis, and retro-bulbar neuritis.

Contraction of the visual fields, especially bilateral temporal contraction (hemianopsia) is common without any ophthalmoscopic symptoms and with little or no depreciation of vision, due to the physiological hypertrophy of the pituitary gland during gestation. Rarer complications that have been observed are conjunctival and vitreous hemorrhages, corneal troubles, conical cornea, cataract, chorioiditis and retinal detachment; also ocular muscle imbalance and refractive alterations, embolism, and exophthalmos. According to some authorities one or more of these ocular disturbances is found in probably 90 per cent of pregnant women.

Some of these complications are not dangerous to either sight or life and pass away quickly after parturition. Others are of sufficient gravity to cause great anxiety as to sight or life and the consideration of shortening the term of labor to prevent one or both of these disasters.

The systematic use of the ophthalmoscope to examine the eye ground in all cases of pregnancy should be a routine practice, as some of the most severe retinal and optic nerve changes can occur without any noticeable defects in visual perception, until far advanced. This should be done just as urin-

alysis and blood chemistry examination is done.

Long before the ophthalmoscope was discovered it was known that women showing albumin in the urine or much edema would, before the end of their pregnancy, probably have some disturbance of vision. In 1855, four years after Helmholtz made his crude ophthalmoscope, von Graefe described a case of albuminuric retinitis with detachment in a pregnant woman; and three years later (1858) Foerster showed that human pregnancy could be complicated with blindness without any eye ground changes, what we now call retro-bulbar neuritis. Such a condition could be caused by a general toxemia or pituitary enlargement.

The literature since that date is full of reports of similar cases and other ocular complications, but the time given me for this short paper will not allow any extended reference to the publications or authors. I will refer only to some of the later authorities, Cheney, Mills, Finke, and others to whom I am indebted for the more important facts about ocular troubles in pregnancy.

The retinal and optic nerve complications have the same ophthalmic appearance as from other causes but clear up, in most cases, after the uterus is emptied. Marked changes go along with slight defects of vision, and slight changes with very poor vision. These latter are more serious as to prognosis because of probable hemorrhage into the nerve trunk. Uremic blindness is due to edema or circulatory disturbance in the occipital lobe. (von Graefe, 1922.) Neuritis is due sometimes to auto-intoxication which is often present during pregnancy and may result in atrophy. Such cases sometimes have no ne- phritis. Fleurentz, in *Gynaecologie*, 1922, reports a case of eclampsia with total blindness and a normal fundus and a normal pupillary reaction. Induction of labor in the eighth month with a living child restored vision in three days. This amaurosis must have been

\*Read as part of the Symposium on The Reduction of Maternal Mortality held by the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th and 15th.

toxic and of central origin. According to Volhard, amaurosis and sometimes edema of the disk are to be considered as typical eclampsia symptoms, whilst neuro-retinitis and retinal detachment are pseudo-uremic, and could be explained by a functional ischemia, both of the kidney and of the retina.

We have cases of neuro-retinitis when no symptoms of nephritis existed before pregnancy and in such cases there is a direct relation of the pregnancy to the retinitis as well as the kidney affection. Cases of retinitis that closely resemble retinitis albuminurica are seen in pregnancy when there is no nephritis, the so-called retinitis gravidarum, which gets well on completion of the labor, and the plaques and hemorrhage spots disappear in some entirely, but in others leave yellow spots like atrophic areas.

We also meet a more serious form of blindness in pregnancy with optic neuritis, and no nephritis, and such cases go on to atrophy and total blindness if pregnancy is not interrupted.

Authors differ as to the frequency of ocular complications. Physiological enlargement of the pituitary gland with contraction of the visual field and bitemporal hemianopsia and with occasionally more serious results from the enlargement of this gland is probably the most frequent complication, being present in 90 per cent. The other complications mentioned which reduce vision or cause blindness are present, according to Adams, 1 in 100; Ludgren saw 14 cases in 134, Wolff and Zarde 13 in 106, Finke 15 in 108. These quotations are enough to give an idea of their importance. These disturbances have been noted in pre-eclamptic states, eclampsia, acute or subacute nephritis, and also without kidney or liver trouble. The causes are either a toxin of pregnancy or a cerebral edema, an ischemia. No other cause can explain the rapid and complete recovery from the eye trouble with no resulting pathological changes. Birsch-Hirschfeld, Schieck, Kruckman and others whilst differing slightly are of this opinion, as no radical change in the blood vessels, the optic nerve, or the retinal elements could clear up so quickly.

Here is a case in point given me by a fellow practitioner. Mrs. K., aged 53: About 16 years ago had an attack of albuminuric retinitis of pregnancy, child carried eight months, still living. At time of delivery pa-

tient had general edema (extremities, body, face, etc.), very ill for five months, almost if not entirely blind for some time, no eclampsia.

After history: Two attacks of paralysis, has never been free from some edema of body, breast, or legs since. Is now heart conscious all the time, suffers severely with headaches, confusion of mind and memory.

Pulse rate 70

Blood pressure 150

Vision on the right with  $+ 1.25 D = 18/15$  on the left with  $+ 2 D = 18/20$

With  $+ 2 D$  added, reads clearly but eyes soon tire.

Findings: Retinal vessels show only moderate evidence of sclerosis, no hemorrhages in retina, no disk disturbance, no evidence of acute retinal changes, the macula and perimacula regions right and left show many small and large round whitish bodies (old deposits, for they, or similar ones, have been present for at least four and a half years, since I first saw the case.)

Chief complaint: severe headaches, confusion of mind, and edematous areas which change their location from time to time. (Note: Retention of vision in presence of so numerous retinal bodies probably tells that the exudate was originally intra-retinal, and neither sub-retinal (in which case there would have been pigment changes and there are none), nor in the rods and cones (in which case there would have been far greater impairment of vision than is the case.)

K. Fink classifies visual disturbance during gestation into three fundamental forms:

1. A fluttering before the eyes, seeing sparks and white spots.
2. Gradual decrease of vision during the latter part of pregnancy.
3. Sudden and complete or nearly complete blindness.

The temporary results are more often in eclampsia, the permanent damage in nephritis or in neuropathy. All the cases require careful watching. Twenty-five years ago Silex, Adams, Schiotz, and others thought every case of retinitis required termination of the pregnancy. Now, many of them under prophylactic treatment can go to term, and the visual disturbances disappear. Retinitis with detachment, or retinitis without detachment, but with chronic nephritis that tends to get worse, calls for the termination of the

pregnancy. Amaurosis with uremia calls for immediate abortion. Cases have been reported with recovery from uremic amaurosis, but they were not verified cases of uremia, being more probably eclamptic. Eclampsia with retinitis and amaurosis has a mortality according to some authors of 50 per cent without operation. Whether this statement is correct or not, the prognosis of cases of pregnancy with ocular complications both for sight and life is a very serious one and needs careful consideration.

Obstetricians are, after all, just like other doctors and liable to error, and they cannot be too cautious in expressing an opinion when the sight of the patient, her life and the life of the unborn child are at stake.

A case in my own experience shows how uncertain are our forecasts and how they may err. A lady in the eighth month of her fifth pregnancy developed some visual defect. There was albumin in the urine and a retinitis. There had been no previous nephritis. She was allowed to go to term and was delivered of a healthy child. Her eyesight was getting worse and went on to almost complete blindness and the kidney affection did not clear up. The obstetrician, three noted ophthalmologists, and one very distinguished kidney specialist gave practically the same prognosis, that she would not live more than 18 months and that she might improve in vision but not very much. This lady under careful treatment recovered perfect vision and lived eleven years, dying ultimately of interstitial nephritis.

Now I believe that if the pregnancy had been terminated as soon as the kidney trouble was discovered she would have lived many years longer and not died in the prime of life.

A word more about the so-called physiological hypertrophy of the pituitary gland, of which the first sign is contraction of the visual field and later a bitemporal hemianopsia. Dr. Finley's researches in this line, confirmed by Lancaster, Greenwood, Mills and others, give some idea of its importance, not especially because of the field of contraction and the hemianopsia but because if the reports of the autopsy findings are correct the hypertrophy may be such as to be regarded as a tumor. If the normal weight is only from 100 to 125 grains and the autopsies in primi-

parae have found the least hypertrophy to be about 150 grains and from that to 300 grains (five drachms or over)—one can have all the manifestations of overfunction of the pituitary, and the pathological symptoms of pressure. Some of the so-called pre-eclamptic symptoms, such as headache, nausea, vomiting, epigastric and colonic pains could be caused by it and this explains why these threatening cases never climax in true eclampsia.

This pituitary overgrowth can also cause retinal and optic nerve troubles resembling very much the same troubles from toxemia with degenerative changes in kidney, liver, etc. Hence the importance of separating the cases of pituitary origin from those arising from a true toxemia, which can be done by examining the eye ground and the fields just as the urine and blood are examined.

---

#### SYMPTOMS OF MEASLES

In general, the features of the period of invasion may be readily enumerated chronologically by associating them with the fingers of the outspread hand. Beginning with the little finger is the first symptom, fever. Twelve hours later comes the ring finger, or puffiness of the lower eyelid and perhaps the measles line, together with the first sign of the rash on the fauces. Twelve hours later, or middle finger, come the evidences of catarrh, also known as the three C's; to wit, conjunctivitis, coryza and cough. Twelve hours later, or the forefinger, are found Koplik's spots. Thirty-six hours later, or as far from the forefinger to the thumb as it is from the little finger to the forefinger, comes the rash or exanthem. Koplik's spots comprise the first pathognomonic sign of measles. When marked, these spots resemble grains of white pepper loosely sprinkled on a red background. They first appear, usually on the second or third day of the disease, as small red patches in the center of which is a tiny opalescent whitish speck, much smaller than a pinhead. They are usually first found in the mucous membrane on the inside of the cheek about opposite the first molar teeth, but as they become more numerous they may be found all over the inside of the cheeks and in marked cases on the mucous membranes of the gums and lips. When marked, they are usually seen in any light, and the patient may speak of the mucous membrane of the cheek as feeling rough to the tongue. When few or fading or just appearing they are best seen in strong daylight, and occasionally cannot be seen at all by artificial light. Koplik's spots usually disappear as the exanthem appears, and are found when looked for in about 90 per cent of cases of measles.—*Jour. A. M. A.*

---



## THE HOME OR HOSPITAL FOR OBSTETRIC DELIVERY\*

C. J. ANDREWS, M.D., F.A.C.S., Norfolk, Va.

When I was asked to discuss the subject of selection of obstetric patients for hospitalization, my first thought was that all cases should be delivered in the hospital and that there was nothing else to say. Upon more careful consideration it would appear that however desirable this arrangement might be it is not possible at the present time.

Last year there were 2,600 births in Norfolk alone. Perhaps in the area normally served by the hospitals of this city more than 5,000 births occurred. About 1,000 of these were delivered in hospitals; a few more could have been accommodated but at most 1,500 would have been the limit of capacity of hospital accommodation here available for obstetric cases. There are a number of other economic reasons why the other 4,000 could not now be admitted to hospitals. Some of these, possibly one-half, could stand the expense, but the other half could not; and the funds available for free beds are very limited indeed. Many in rural districts live at a distance and it is impracticable to transport them unless conditions make this necessary.

The facts would also force us to admit that the welfare of the patient does not always demand hospital treatment. The wonderful record of the out-patient department of some maternity hospitals, notably the New York Lying-in, where one death in 750 confinements is recorded, is evidence of this. Probably 80 per cent of all cases are normal and may be cared for at home almost as safely as in the hospital, provided suitable attention is available. It is equally true that the complicated or abnormal cases can be treated more safely in hospitals. It is obvious therefore that the accurate diagnosis of these conditions is essential to wise advice as to which ones should not be treated at home. Some of these complications may not be foreseen or not recognized until it is too late to make the transfer unless the distance be short. Fortunately suitable and regularly repeated study and examination of these cases during

pregnancy will usually not only prevent many complications, but will give information on which a fairly accurate diagnosis of abnormality can be made.

Our national and state maternity welfare organizations have brought these facts definitely to our attention as the only key known at present to the maternity mortality situation. Our state health department is making definite effort through its county nurses to get every maternity case to a doctor for examination. Some organizations in our cities are developing prenatal clinics, and it would appear to be a much better business plan if our hospitals were to further promote this movement. By this means many complications now requiring hospital beds could be eliminated. The abnormal cases could be diagnosed and admitted, allowing the normal cases to be attended at home by whatever agency is available, although many of these must be delivered by midwives. This would have the additional advantage of providing a point of contact between the hospital staff and the midwives. The midwife and patient should be encouraged to call for help when needed. In fact the opposite course has been followed and consequently the midwife has been slow to call for help, often waiting until it is too late.

There are certain conditions which call for the hospital. Pelvic measurements will not always reveal disproportion, but they will show which pelvis is deformed. A few women, mostly colored, have a contraction through which no mature baby can pass alive at least, but many others—making a total of 7 per cent—have pelves which are contracted to a lesser degree. Many of these will permit normal delivery, but it is to be remembered that it is this class which furnishes most of the tragedies of delivery. Every woman with a contracted pelvis should be sent to a hospital for delivery. Some women who have normal pelvic measurements may have disproportion. This may be suspected on account of enormous gain of weight, and evidence of unusually large fetus, which may be determined approximately by measurement

\*Read as part of the Symposium on The Reduction of Maternal Mortality held by the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th and 15th.

through the abdominal wall. Marked over-riding in the last weeks of pregnancy, or during the first stage of labor, is significant. Such a patient should be transferred to a hospital, particularly if a primipara.

Causeless, painless uterine bleeding during pregnancy demands that that patient be sent to a hospital at once, no matter where she lives. No woman so far as I know has ever died from the first hemorrhage, and after this is over she may be easily transported almost anywhere. The usual story is that the hemorrhage stops and everybody, including the doctor, is content until the second and even the third one arrives. Bernheim, in his book on blood transfusion, says that of all persons the obstetrician is the most optimistic, particularly when he encounters hemorrhage. He sees considerable quantities of it so often that it does not frighten him and therefore is often slow to act. When the lower uterine segment or cervix which accommodates the placenta has been dilated, the spigot has been opened and there may be no satisfactory way to close it. One in four die—either from bleeding or sepsis which follows makeshift attempts at control.

If proper prenatal care has been given toxemia patients will require very little hospital space. When the toxic patient does not satisfactorily respond to management she should be admitted. The diagnosis of a pelvic or uterine tumor complicating pregnancy would suggest that this patient be delivered in a hospital, as an abnormal delivery—and possibly hysterectomy—may be required. Breech cases are more conveniently and safely managed in hospitals, though some are extremely simple. Cardiac insufficiency presents a problem which will usually require hospital management. Abortions add a large number of deaths to mortality statistics by the sepsis or hemorrhage route. These cases should be admitted and thoroughly prepared before any vaginal examination is made. Every multipara who gives a history of previous difficult labor should be delivered in a hospital.

If all pregnant women coming in the classes here enumerated were treated in hospitals, there would still be room for the numerous incidental complications which may arise, and also the growing number of those who select the hospital for its additional safety, convenience and comfort. If there is not room

enough for those who can afford to pay, it is a safe prediction that the public will provide more. We cannot expect the public to contribute freely at present to provide free beds for normal obstetric patients, because this task will not appeal to the business sense of philanthropists as a practical or necessary undertaking.

The function of a free hospital obstetric service is two-fold—the prenatal clinic to prevent morbidity and make a diagnosis of abnormalities; hospital service for the complicated case whose only chance perhaps for life and health depends on treatment which can only be given in hospitals.

On such a basis a free hospital obstetric service would seem to fill all requirements for an attractive investment from a philanthropic standpoint. It should appeal to those who have the responsibility and obligation of dispensing some of the funds collected as taxes for necessary help of the helpless.

305 Medical Arts Building.

#### POSTMORTEM EXAMINATIONS

In the symposium on postmortem examinations at the recent conference on medical education, several practical observations were made. In Minneapolis there were nearly 1,400 necropsies during 1927—about 19 per cent of all deaths occurring during the year in that city, which has about half a million people. Of the 1,400 necropsies only about 200 were coroners' cases, the others being made by personal consent of the relatives of the deceased. This record is apparently unequaled by any other city of considerable size in America. It may be taken either as remarkable evidence of the intelligence of the citizens in that city or of an unusually efficient medical profession.

Another report revealed what may be done in securing consent for necropsies in connection with a physician's private practice. A general practitioner in a small city was able to secure consent for and performed necropsies on the bodies of thirty of the thirty-three of his patients who died during 1927.

Attention was forcibly called to the importance of proper, or even to say, reverent, deportment in the necropsy room as a means of removing objections to the making of postmortem examinations. The routine should be fully as respectful as that followed in the surgical operating room.

The American public mind should be brought to the same point of view as that of the continental European. Necropsies should be the accepted procedure. Public opinion toward this end might be developed in states having a homogeneous population of intelligent citizens. If physicians and hospital authorities take a deeper interest in necropsies they can make the importance of such examinations more clear to the friends of the dead; authority to perform necropsies will then be granted more frequently and more readily. The medical profession should not lag behind the intelligent public in the proper conception of the necessity for necropsies in order "that those dead shall not have died in vain."—*Jour. A. M. A.*, March 24, 1928.

## SURGERY OF OTHER PARTS AS INFLUENCED BY PREGNANCY\*

MURAT WILLIS, M.D., Richmond, Va.

I consider myself fortunate in being the recipient of an invitation to present a paper in this symposium.

That pregnancy exerts an unfavorable influence on the prognosis in certain surgical conditions is unquestionably true. In cancer of the breast, the course of the disease is markedly accelerated and the tendency to metastasis is accentuated. Then, too, the increased vascularity of the gland incident to the pregnancy increases the difficulty of operation. Acute infections in the pregnant patient present a more serious problem than the same infection in a non-pregnant patient. In an acute infection involving an abdominal organ it is generally true that pregnancy seems to exert an unfavorable influence on the outlook. Thus, a perforated appendix in a pregnant woman is a condition of the utmost gravity; the resistance of the patient appears to be lowered, and she falls a ready victim to a spreading peritonitis or pelvic cellulitis. The same is true of infections of the biliary passages; operation for cholecystitis or cholelithiasis in the face of a co-existing advanced pregnancy is accompanied by a definitely increased risk. So impressed have we been with the correctness of this view that it has been my custom in recent years to defer operation on the gall-bladder during the latter weeks of pregnancy, resorting rather to induced labor, after which the necessity for operation may disappear or it is possible to defer it until the condition of the patient justifies. Every attack of appendicitis carries the menace of a surgical emergency; for this reason, operation for this condition in a pregnant patient should never be delayed. Our results certainly justify the assertion; from then, it is apparent that the risk is no greater in early appendectomy on a pregnant than on a non-pregnant patient.

Aside from the conditions mentioned and from the fact that pregnancy creates mechanical difficulties in kidney and abdominal operations, I do not look upon pregnancy as in

any way increasing the danger in general surgery.

It is almost as important to consider the question from another standpoint: does abdominal operation lead to a termination of the pregnancy? Not only may such a result be most unfortunate because of the desire for a viable child, but the resulting abortion may prove disastrous to the mother. It is astonishing how little danger of interrupting pregnancy accompanies laparotomy. To illustrate this, the following case may be cited. The patient was believed to be at term; commencement of labor had been daily expected. Appendicitis developed and when the patient entered the hospital, it was obvious that immediate operation was necessary. Because of the size of the uterus and location of appendix a right flank incision was made, through which a gangrenous appendix was removed. The patient made an uneventful recovery; going into labor five days later, with the delivery of a normal full term child.

Abdominal operations necessitating considerable pressure on the pregnant uterus may lead to abortion, but that this is not invariably so is obvious from the following case. The patient entered the hospital, three months pregnant with a history of twelve years married life without previous conception. On vaginal examination, a mass, extending from the uterine fundus to the internal os was palpable and the diagnosis of uterine myoma was made. Delay was attempted, but within a few days, symptoms of acute inflammatory involvement of the myoma appeared and it became evident that operation was imperative. In view of the patient's earnest desire for a living child, hysterectomy, the logical operation, was not performed. By an incision extending from the left uterine horn to the internal os and carried deep into the wall of the uterus, a myoma, equal in size to the uterus, was removed. Labor was not brought on by the operation; and, on discharge, the patient was advised to return to the hospital for confinement, because of the fear that rupture might occur at that time through the scar of the operative wound in the wall of the uterus.

\*Read as part of the Symposium on The Reduction of Maternal Mortality held by the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th and 15th.



This advice was unheeded, however; and the patient, going into labor in her home, delivered spontaneously a normal child at term. Another instance fully as striking occurred in a woman, who was admitted to the hospital with a diagnosis of five months pregnancy complicated by an ovarian tumor with a twisted pedicle. An immediate abdominal section was made and it was found she had dermoids of both ovaries, the size of a grapefruit, and it was necessary to do a double oophorectomy, in spite of which pregnancy went on to term and a normal delivery.

These cases are, admittedly, extreme instances of what may be accomplished; but many others, less striking, have convinced me that pregnancy is no contraindication to necessary abdominal operation; and, conversely, most abdominal operations may be undertaken on the pregnant patient with but little fear as to the interruption of pregnancy.

There is one surgical procedure, however, which is peculiarly related to the pregnant state and which, I am convinced, has been a factor in leading to an increased maternal mortality when employed injudiciously; namely, cesarean section. With the passage of time and the fortunate association with Dr. M. P. Rucker, my surgical associates and I have come to be more and more firmly established in the view that cesarean section is comparatively rarely indicated.

During the first ten years or so of my surgical experience I did cesarean section for a number of conditions and, although my hospital obstetrical cases were quite limited, the operation of cesarean section was of common occurrence. In late years, with a greatly increased number of hospital obstetrical patients under the charge of a competent obstetrician, the indications for section have grown fewer and the operation comparatively rare.

In 1925, some fifteen thousand women died in the puerperium. With justice, you may say that this is an appalling number, but encouragement may be gained from two considerations: first, the puerperal death rate is declining from year to year, as would be expected from improvements in obstetrical teaching and technic; secondly, as witnessed by this symposium, the obstetricians are disturbed at this number of deaths and are striving earnestly to effect still more rapid

reduction. Appalling as it is that during a single year more than fifteen thousand deaths occurred in connection with child-birth, it is even more appalling that a *single surgical condition*, appendicitis, was responsible for a greater number of deaths in the same period. Moreover, in contrast with the falling maternal death rate, we are confronted by a steadily rising one from appendicitis: in 1925, the appendicitis death rate per hundred thousand population was 15.1, in 1910, it was 11.6; or, expressed differently, thirty-five hundred more patients died in 1925 than would have died if we had maintained the rate of sixteen years previously. Nor, unfortunately, is it only in appendicitis that this alarming state of affairs exists. In diseases of the biliary passages; in gastric and duodenal ulcer; and in diseases of the thyroid, the same alarming increase in death rate is apparent. In contrast to the concern of the obstetrician, who is eagerly seeking to effect an improvement, is the stolid self-satisfaction of the average surgeon, who is content with things as they are and attempts to explain the disgraceful mortality figures otherwise than by reference to the facts.

---

#### THE MILLIONAIRE

He has ten million dollars  
And he's dead.  
And when I read the item there  
I said:  
"To have that sum of money!  
Now is it not quite funny  
To have that sum of money  
And be dead?"

To have that quite enormous  
Pile of gold,  
And then to lie beside it  
Still and cold.  
To have so many, many  
Dollars, yet to have not any,  
For not a single penny  
Could he hold.

Those millions and those millions  
That he got,  
And in a fleeting moment  
They were not.  
And when he felt Death creeping  
Near those dollars in his keeping,  
I could not help but wonder  
What he thought.  
—James W. Foley in the *Medical Sentinel*.

---

Lucky is the moron,  
Happy as a clam;  
I only wish I were one:  
Good Lord! perhaps I am!  
—*The Journal Lancet*.

---



## TUBERCULOSIS COMPLICATING PREGNANCY AND THE MANAGEMENT OF THE CASE\*

CHAS. C. ORR, M.D., Asheville, N. C.

The complication of tuberculosis with pregnancy is not an unusual one. In obtaining histories a question often asked is when did the symptoms begin to show themselves. Frequently it is found that it was following the birth of my last child, or following an operation. There can be no doubt but that tuberculosis in women often manifests itself during pregnancy, and still more often after the birth of a child.

The physician is often consulted by his patient as to the advisability of marriage. There are some who marry knowing they have tuberculosis and others who marry ignorant that they have a tuberculous infection or an active lesion in the lung. The effect of pregnancy upon the tuberculosis of the two classes may be quite different. The first will be under the constant care of the physician and their mode of living and environment so controlled as to conserve their health. The second class, ignorant of these conditions and assuming much work and many of the responsibilities of daily living along with pregnancy, sooner or later find themselves far advanced into active tuberculosis. As to the advisability of marriage for the tuberculous in the case of the man the answer is not so difficult. If his is a closed case and the trouble has been arrested for a sufficient length of time to be assured of a reasonable cure, and he is in possession of adequate means, marriage may be permitted. In the case of women the problem is more difficult. The risk of pregnancy must be seriously considered. Those having open cases, progressive incipient cases, or far advanced cases should not marry. Those having incipient cases which have never been open cases and open cases that have become closed and the lesion has become arrested and remained so for two or three years, may marry and give birth to children with little danger of more than the usual mishaps accompanying any pregnancy.

Such cases should be under the constant care of their family physician as to their physical condition and mode of living. The children of such marriages are usually healthy and develop into robust childhood, provided they are protected from infection and their mode of living so supervised that they have a healthy environment for the development of body and mind. Those that marry and are ignorant of their trouble are more likely to break down under the strain of pregnancy or repeated pregnancies, due caution not being taken to conserve the mother's health. The children of such unions are more likely not to be so healthy, and, being carelessly exposed to repeated infections from the mother, later develop active tuberculosis.

What is best for the pregnant tuberculous patient is often a difficult problem. We find pregnancies occurring in all stages of the disease. Most of these patients are sincere in coming to the physician to ask for help and advice. Occasionally we may have a patient who may wish to take advantage of the fact that she is or has been tuberculous to have a pregnancy interrupted. We must give both a sincere and unprejudiced judgment and advice regardless of what element of selfish desire may be interposed by the patient.

As to the treatment of the tuberculous patient in first two months of pregnancy opinions differ widely. Some are of the opinion that all pregnancies in the tuberculous should be interrupted, and others that no pregnancies in the tuberculous should be interrupted. Then we have the third group who take a midway position and believe in individualizing each case. This view, we think, the more plausible and the one we have always taken. Each case must be individualized and studied separately from every other case. The family history, the age, the general condition of the patient, the degree to which the tuberculous disease has advanced, the financial condition of the patient, the number of previous pregnancies, and many other things—must be most carefully considered. Each case is worthy of thoughtful, well considered

\*Read as part of the Symposium on The Reduction of Maternal Mortality held by the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th and 15th.

action based upon the merits of its several features. Opinions should not be formed hastily. Special cases may require prolonged and detailed observation. However, there is no certain rule by which we can be guided. We might say that if it is a closed case, arrested and has been for some time, and the general condition good, and the financial condition of the patient is such as will permit her to have help in caring for the baby after delivery, pregnancy is reasonably safe to go to full term. On the other hand if the tuberculous lesion is far advanced, if the case is an open one, especially if there be temperature, cough, expectoration, or if the care of the baby after delivery would so add to the responsibility of a mother with active early tuberculosis as to prevent proper treatment—such cases of pregnancy should be interrupted.

X-ray pictures in these cases are always advisable.

Having decided that an interruption of pregnancy is indicated, the opinion of two other physicians should be obtained as to the advisability of such a procedure. The interruption of pregnancy should be done before the fourth month. After the fourth month it is a more serious operation—the shock to the general systemic and glandular organism is such that it is likely to do more harm than it would if permitted to go full term. I do not advise the use of ether as an anesthetic in these cases, although many of the surgeons think there is no harmful results to the tuberculous lesions of the lungs from the use of ether. The pregnancy having been interrupted these patients should be kept on the usual rest treatment for tuberculosis, and cautioned as to the dangers of becoming pregnant. Laryngeal tuberculosis, intestinal tuberculosis and renal tuberculosis, are complications that must be carefully considered in pregnancy. With involvement of these or other organs of the body the prognosis is not so good and would call for an early interference of pregnancy. Having consented to the patient going to full term in pregnancy she should be under the constant care of the physician and the obstetrician. The patient as far as possible should be relieved of household duties and worries. Rest at night and regular periods of daily rest should be insisted on. There should be a well ventilated

room or, better, a sleeping porch. The diet should be carefully watched, easily digested and as nutritious as possible. The associates of the patient should be most congenial and sensible, and not those who would impregnate the mind of the patient with forebodings of disaster and imaginary complications which perhaps would never occur.

Some have advised that labor should be induced at the eighth month or two weeks before time of labor. I see little to be gained by such a practice and have never seen unfavorable results from permitting the patient to go to full term. Certainly it is much better for the child. In labor she should have an experienced obstetrician and the labor rendered as easy as possible. The mother should be thoroughly trained in preventive measures against the spread of tuberculosis and especially in the necessary measures to prevent infection of her child. She should be warned against the intimate association of herself and child. If the disease is not recognized in the mother the child only too often is infected and both mother and child die. The child should have artificial feeding. There are certain cases in which the child should be entirely separated from the mother. The after care of the mother should be the usual routine treatment for tuberculosis, depending upon her general condition and the amount of tuberculous involvement. Unforeseen complications may arise during the months of pregnancy. Hemorrhages may occur. In the fall of 1926 I was called to see a woman who was having a hemorrhage from tuberculous lesion in the upper lobe of the left lung. She was three months pregnant. Interruption of pregnancy was inadvisable. She was given the usual bed rest and fresh air treatment. The lung and general condition improved and she carried the child to full term and went through labor without any ill effects.

In artificial pneumothorax if the patient has been helped so far as being free from sputum, cough and temperature and the general condition is good, pregnancy does not need to be interrupted. Cases of pneumothorax complicated with pregnancy have been reported where labor has been normal and no ill effects to mother or child, and the refills continued as usual. In the beginning of an artificial pneumothorax should a pregnancy unfortunately occur, an abortion might pos-

sibly be indicated, but not necessarily so. Such a case should have most careful consideration. The longer the lung has been collapsed the better the prognosis in pregnancy.

Military tuberculosis developing during pregnancy is a very serious condition and means death to mother and unborn child. Such cases are rare. Acute military tuberculosis following delivery is possible and perhaps more common than is realized, the unrecognized cases being classified as puerperal sepsis.

Dr. W. S. Pugh of New York says that tuberculosis of the kidney associated with pregnancy is so seldom reported that it is regarded as rare. It is a serious complication. Dr. Pugh does not advise nephrectomy and abortion. He advises abortion only when the nephrectomy is refused by the patient. He says from cases reported, that nephrectomy is the procedure of choice in unilateral renal tuberculosis of pregnancy. Intestinal, mammary, genital and glandular tuberculosis, etc., are serious complications which may occur during the months of pregnancy rendering the prognosis most unfavorable.

In reviewing the early literature of pregnancy in the tuberculous it is interesting to find that pregnancy was for many years believed to exert a favorable influence on the course of pulmonary tuberculosis. This was perhaps due to the patient's tendency to increase in weight and improvement in her general condition. We often see unusual marked improvement both in the lung involvement and the general condition of a patient during the months of pregnancy, so much so that frequently the patient is of the opinion that she has been cured by pregnancy. It is not likely that the pregnancy has any direct effect upon the tuberculous lesion. The extra effort of the pregnant mother and the most diligent observation of all rules in carrying out the prescribed treatment has more to do with the recovery or improvement than the influence of an existing pregnancy.

How does the co-existing of tuberculosis and pregnancy effect the maternal death rate? If marriages are permitted in those cases in which it should be advised against due to existing tuberculosis; if the tuberculous mother is ignorant of her condition and subjected to repeated pregnancies without proper treatment and supervision; and if the phy-

sician is unaware of the existing tuberculosis the maternal death rate may be very high. On the other hand, if marriages are regulated and permitted only in those who may carry pregnancies with reasonable safety; if the diagnosis of pulmonary tuberculosis is made early in the child-bearing period and immediate treatment instituted; and if the physician familiarizes himself with the methods of early diagnosis of the disease and is careful, alert and conscientious in the examination of the child-bearing woman, much will be accomplished in the reduction of the maternal death rate, and in enabling a greater number of tuberculous mothers to carry their pregnancies safely to full term.

#### REFERENCES

- Walsh: Pregnancy in cases of tuberculosis of lung.  
 Ford: Artificial pneumothorax treatment complicated by pregnancy.  
 tuberculosis.  
 Landis: Oxford medicine—tuberculosis.

#### WHY I STICK TO MY DOCTOR

Because his reception room contains a chair I can go to sleep in comfortably.

Because he does not leave his professional journals on the reception room table.

Because he does leave several other journals, viz.: 1 travel, 1 hunting and fishing, 2 humor, 2 highbrow, 1 weekly review, and the Saturday Evening Post.

Because his reception room does not smell of ether.

Because his reception room does not smell of anything.

Because his diploma is not the most prominent thing on the wall.

Because his class picture isn't even in sight.

Because he does not dangle a Phi Beta Kappa key when he is talking with me.

Because he is not too icily professional.

Because he is not too disappointingly human.

Because he doesn't laugh at my theories.

Because he doesn't even notice my theories.

Because he isn't always in a hurry to get somewhere.

Because he doesn't dilly-dally.

Because he seems to know a thing or two about medicine without getting conceited over the fact.

Because he is my idea of a good doctor.

But if he doesn't soon stop fooling with his glasses during consultation, I am going to look for a new physician.—An *Impatient*.

#### PRIZED HIS GRUDGE

Sambo went to Rastus one day and said: "Heah's dat qua'tah Ah borrowed."

Rastus, quite disgusted with his friend, looked at the money and then shook his head, as he remarked: "Sambo, yo' owed dat money so long dat Ah don't know ef it's wo'th while fo' me to change mah opinion of yo' jes' fo' two bits.—*Kablegram*.

## THE CARDIO-VASCULAR-RENAL COMPLICATIONS OF PREGNANCY AND THEIR MANAGEMENT\*

GARNETT NELSON, M.A., M.D., Richmond, Va.

An attempt at a comprehensive presentation of the diseases or functional disorders of the heart, blood vessels and kidneys that may occur during pregnancy leads into many by-ways and hedges of thought. The view of associated changes in other organs, of disturbed function, of poorly understood etiological factors, of varying pathology, of contradictory evidence and conclusions is kaleidoscopic, and there is only a limited field at which we may gaze serenely conscious of fixed knowledge. The truth of the matter is that we are to a great extent ignorant as to the relation between pregnancy and the origin of disease, and so long as this question remains unanswered we may entertain ourselves taking opposite sides on many conflicting hypotheses.

When we consider a normal pregnant woman our attention is immediately attracted to two great differences between her and the non-pregnant. In the first place she has within her, communicating directly with her, a living animal of her own species, of the same or another sex, not merely a parasite, but a forceful stimulus; and in the second place—she has ceased to menstruate.

Incidentally I find no paper that deals with the sex of the fetus and the incidence of disease in the parent, and suggest that possibly this may be a matter worth looking into.

Now despite the fact that there is little similarity between the symptoms or findings after the menopause and those of pregnancy, there is a marked parallel between the altered physiology of normal pregnancy and that of the premenstrual week of normal menstruation. Hofbauer declares that the problems of the toxemias of pregnancy begin in the realm of physiology and end in the realm of pathology, and Ehrenfest speaks of the premenstrual week as the monthly preparation for impregnation, calling attention to physiological similarities that may end abruptly

with the menstrual flow, or carry on into the physiology of normal pregnancy. He states that the two, that is the premenstrual week and normal pregnancy, are in many respects identical. I will take up these similarities further on in my paper.

This paper deals with the complications of pregnancy relative to the heart, blood vessels and kidneys, leading, therefore, at once from normal physiology to acquired or added disease with its associated pathology. Our attention will be devoted to the kidney chiefly, though it is impossible to take this subject off by itself and avoid a discussion of certain features of all of the so-called toxemias of pregnancy. The five great disasters to which some allusion will have to be made are pernicious vomiting, eclampsia, nephritis, premature separation of the placenta, and death of the fetus.

With the announced intention of holding to the kidney as far as possible the heart will be dismissed after a few remarks, and the reader will have to look elsewhere for a full discussion, particularly in the writings of Burton Hamilton, Paul White, Herrick, Cabot and Mackenzie.

I find no evidence that pregnancy of itself is ever responsible for the origin of uncomplicated heart disease. To be sure there is an extra load thrown on the heart, and it is out of position with an elevated apex and more transverse axis in the latter months of pregnancy; but the normal heart takes care of this with an increased rate, or increased blood volume per beat.

The question that concerns us, therefore, has to do with pre-existing heart disease. Hamilton states that from one to two per cent of all pregnant women have significant heart disease, usually rheumatic with mitral stenosis or aortic regurgitation or both, and advises such women desiring to become pregnant that: First, they will take a risk, of approximately five per cent, of death during pregnancy or the puerperium; second, they take a larger risk, of possibly ten per cent of surviving, themselves but of failing to give

\*Read as part of the Symposium on The Reduction of Maternal Mortality held by the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th and 15th.



birth to a living child; third, they take a serious but less clearly defined risk of permanent disability, or of prolonged temporary disability.

He further defines very clearly those who should be advised against pregnancy, or in whom pregnancy should be interrupted if they come under observation early, as: First, those who have, or have had clear signs of congestive failure; second, those who have complicating nephritis, or marked hypertension; third, those who have auricular fibrillation; and fourth, those who have or have recently had rheumatic fever. If any of these four groups come under observation late in pregnancy an attempt may be made to tide them along, hoping for a viable child, but the danger of losing the child or mother, or both, is very great.

Although there is nothing about pregnancy to initiate uncomplicated heart disease, this does not hold true of hypertension and arterial thickening.

Herrick, discussing chiefly hypertensive cardio-vascular disease, and dwelling in the main on the clinical aspects, states that hypertension may come on gradually or suddenly, chiefly in the latter months; that it may be the only abnormal symptom, and is particularly prone to occur in the pituitary type of female; i. e., those of large frame, broadly built, heavy, with thick skin and coarse hair, often of masculine distribution. He considers a persistent systolic pressure above 140 or diastolic above 100 as toxic hypertension, and warns against frequent child-bearing on the grounds that these women have a substandard cardio-vascular system with a tendency towards cardiac hypertrophy, thickening of the brachial and radial arteries, and retinal changes, and that there is a recurrence of hypertension in the subsequent pregnancies of ninety-six per cent of those in whom it once occurs.

With these sketchy abstracts, and except for allusions to the connection between hypertrophy, hypertension and increased permeability of the capillaries and other pathology, the heart and blood vessels will have to be dismissed.

To return to the kidney we will take up certain physiological or physico-chemical reflections and speak of first what might be called Ehrenfest's parallels. In both the pre-

menstrual week and normal pregnancy a woman shows an alteration in carbohydrate metabolism with diminished sugar tolerance; an increased size and function of the thyroid with an increased metabolic rate; disorders of the vegetative nervous system; alterations in the sensibility of the secretory and vasomotor nerves; a rise in blood pressure, often in temperature and pulse rate; variations in cardio-vascular activity and respiratory rate; circulatory and structural alterations of the capillaries in general; in the blood a leucocytosis, an increased hematopoietic activity, a diminished CO<sub>2</sub> combining power with a disturbed acid-base balance, an upset water and salt content, and changed calcium concentration. He considers an ovarian hormone and a placental hormone responsible in turn for the two groups of alterations, and concludes that a departure from these normal physiological findings in pregnancy is due in part at least to an ovarian dysfunction. However, as was said above, the fetus is by no means merely a parasite, evidence of which lies among other things in the studies of the two Siamese sisters, one of whom became pregnant, with the same physiological alterations occurring in both.

A few comments on the normal alterations are necessary. It is now believed that the basal metabolic rate is increased no further than can be accounted for by the added rate of the fetus. The basal rate of the pregnant woman is equal to her own plus that of the fetus.

Again the idea that the diminished CO<sub>2</sub> combining power necessarily indicates a tendency to an acidosis is attacked by Dieckmann. He studied the ratio of the CO<sub>2</sub> to the hydrogen ion concentration and concluded that the acid-base relations are normal or there is a mild alkalosis. His work is needlessly disturbing and of no clinical value. For all practical purposes a low CO<sub>2</sub> combining power or a low PH, either or both, means an acidosis, and no attention need be paid to their ratio.

In a recently published study of the gestation period of dogs when made abnormal by pregnancy superimposed on an existing nephritis, or when acute nephritis was induced during pregnancy, MacNider states that during pregnancy the acid-base equilibrium is upset with a reduction of the re-

serve alkali, that this is greater in older dogs and in the latter months of pregnancy, and that it may occur without evidence of renal injury. Stander's work on blood chemistry in nephritic and eclamptic toxemias contains the statement that the CO<sub>2</sub> combining values are very low, that this is an acidosis and should be treated as such. Levy, Hensch, Thalheimer, Miller, etc., concur in these views.

Passing from the normal physiology of the pregnant woman to the abnormal, we may believe that these widespread disturbances of function of different organs or systems may be in part themselves responsible for developing pathology, and that the chief relation of pregnancy to the origin of disease lies in the realm of normal physiology. At any rate when we attempt to fix our attention as closely as possible on the diseases of the kidney we may not lose sight of these generalized disturbances. In other words kidney disease in pregnancy is widely different from that of the non-pregnant, so widely so in fact that it rarely occurs unattended by other serious disease, and a differential diagnosis is often difficult. Note Thalheimer's confusion of "eclampsia without convulsions" with "pre-eclamptic nephritic toxemia," and Stander's admission that at times he cannot tell one from the other. However, in order to consider kidney diseases under such peculiar conditions we must first adopt and understand as far as possible some classification common to all conditions, then include the modifications of pregnancy. There are two broad divisions, *infectious* and *non-infectious*. Of the infectious, pyelitis alone bears any definite relation to pregnancy. The classification of the non-infectious that will be used is that of Volhard and Fahr, and the writings of Hensch and others will be used when needed without further acknowledgment.

#### PYELITIS

An attempt has been made to make a distinction between (a) pyelitis in pregnancy and (b) the pyelitis of pregnancy. This seems to be straining a point and of no clinical value. The commonly accepted chief etiological factor involved is stasis, due to

1. stricture of the ureter
2. engorged pelvic vessels
3. torsion or obstruction of the ureter
4. pressure of the fetal parts

#### 5. residual urine.

The points at which obstruction is most likely to occur are at the junction of the kidney pelvis and ureter, at the brim of the pelvis, or at the entrance of the ureter into the bladder. Ehrenfest dissents from these pressure ideas. He states that eighty per cent of normally pregnant women have varying degrees of dilatation of the upper urinary tract, and believes that this is not due to mechanical conditions, but to atony from disturbed function of the vegetative nervous system.

Pyelitis is common among young girls and pregnancy may light up a pre-existing condition. It is apt to recur with each succeeding pregnancy.

The usual organism is the colon bacillus, though staphylococci, streptococci, etc., may be responsible. The infection may travel up by direct extension, may be blood borne from other foci, or may reach the pelvis by way of the lymphatics. In this connection it is interesting to recall that there is a direct lymphagenous connection between the large bowel and upper urinary tract on the right and probably the left side. The treatment of pyelitis in pregnancy is similar to that of any other pyelitis, including a period of rest in bed; a bland non-irritating diet; forcing fluids in large quantities; alkalinizing the urine, or occasionally changing the reaction backwards and forwards between acid and alkali; the use of an antiseptic such as acriflavine; and irrigation and local treatment of the pelvis by means of the ureteral catheter. The old idea that if a pyelitis could not be cured an abortion should be done is no longer tenable. Vaux and Hunner advise conservative measures and do not consider a possible incurability a sufficient reason for abortion. Norris says that he has never had to empty the uterus on account of pyelitis.

#### NON-INFECTIOUS DISEASES OF THE KIDNEY

The classification of Volhard and Fahr is as follows:

##### Acute

- a. diffuse glomerular nephritis
- b. focal glomerular nephritis
- c. nephrosis (degenerative tubular)

##### Chronic

- a. chronic diffuse glomerular nephritis, early chronic, or late terminal

- b. chronic nephrosis (degenerative tubular)
- c. mixed "a" and "b"
- d. chronic focal glomerular nephritis
- e. arteriosclerotic nephritis; nephritis secondary to vascular disease
- f. chronic diffuse glomerular nephritis, secondary to malignant sclerosis, giving same renal picture as "a."

For practical purposes this classification may be more simply arranged into:

1. Nephritis
  - a. acute
  - b. chronic
  - c. terminal
2. Nephrosis
  - a. acute
  - b. chronic
  - c. terminal
3. Focal nephritis
4. The arteriosclerotic kidney.

For treatment we must understand the normal functions of the kidney, and the departures therefrom that are incidental to the various forms of lesion; nor can we forget in pregnancy, as was said above, the threatening liability to associated disease. The function of the kidney is chiefly excretory, accom-

plished by a mechanical filtration of a protein-free fluid through the capillaries in the glomeruli, with an elaboration of this filtrate into urine in the tubules either by re-absorption alone, or by re-absorption plus active secretion. In order to make the significance of disease more clear these functions may be stated as follows:

1. The excretion of certain non-protein end-products of metabolism, urea, uric acid, creatinin, etc.
2. The regulation of the body economy for water and salts. (The osmotic pressure of the blood depends largely on the maintenance of water balance and salt content.)
3. The maintenance in part of the acid-base equilibrium of the body. (Perfusion of the kidney shows that it has something to do with the presence or absence of ketone bodies.)
4. The synthesis of hippuric acid and possibly a small part of the urinary ammonia.

The management of kidney disease in regard to rest in bed, food, water, salt, elimination by the skin or otherwise, the exhibition of drugs, venesection, and in pregnancy the production of abortion depends on an accurate differential diagnosis of the various forms. The following table is helpful:

<i>Type</i>	<i>Urine</i>	<i>Water and Salt Retention, i. e. Peripheral Edema</i>	<i>Blood Chemistry</i>	<i>Systemic Changes</i>
Chronic diffuse Glomerular nephritis	Albumin present Casts present Sp. grav. fixed or low Red blood cells present or absent	Present or absent	Moderate to marked retention of nitrogen and dyes	Hypertension anemia, possibly severe cardiac hypertrophy Retinal disease
Chronic nephrosis	Albumin present Casts present Sp. grav. high	Edema present perhaps marked	Normal	Absent
Focal nephritis	Albumin present Casts present Blood present Sp. grav. fixed or low	Rare	Normal	Absent
Arterio-sclerotic nephritis	Albumin trace Sp. grav. fixed or low	Generally only after cardiac failure	Changes mild if any	Moderate as compared with chronic glomerular

It is seen, therefore, that a differential diagnosis is based on the history; a careful physical examination, including the blood pressure, the presence or absence of edema, the size of the heart, the condition of the palpable arteries, and the retinal vessels; repeated urinalyses, chemical and microscopic; examination of the blood, including the chemistry, a red cell count and the hemoglobin; and on certain functional tests.

In the acute forms we find blood, albumin and casts with edema, and diminished urinary output. The blood pressure may be unchanged. There may be no nitrogen retention and the eye-grounds may remain normal. The fact that nitrogen retention and elevation of pressure run fairly parallel has an unknown relation to cause and effect. It is merely an observation that where glomerular involvement predominates there is a tendency to both.

In regard to the chronic forms it is very important to remember that in chronic diffuse glomerular nephritis we are dealing with an inflammatory process, a problem that does not concern the kidneys only, but a widespread systemic disease involving also the capillaries of the heart, the periphery, the eye grounds and the bone marrow. Chronic nephrosis is a degenerative process, involving chiefly the tubular epithelial cells, characterized by edema and albuminuria, without, as a rule, systemic manifestations. Focal nephritis indicates an association with foci of infection. Arteriosclerotic nephritis is incidental to a general arteriosclerosis.

So much for a general classification of the diseases of the kidney. All or any of the various forms may be present during pregnancy, but, as was said above, we must not forget the normal physiology of pregnancy and the liability to other pathology. Attention will be paid to the vomiting of pregnancy only far enough to mention the disturbed carbohydrate metabolism, the tendency to acidosis, the neurotic factors, intestinal intoxication, and possibly ovarian dysfunction. Of course it is possible for kidney disease to develop or become aggravated during the first three months, during the period when vomiting is most troublesome, that is before the formation of the fetal pancreas; but as a rule this is not so, and it is only later on that we expect significant nephritis. If a woman is

in all respects doing well, the most guarded prenatal care does not demand frequent urinalyses, nor blood pressure records, nor any other observations until after the conclusion of this period. And it is equally true that the fact that a woman has pernicious vomiting during the first three months has nothing whatever to do with any liability to the development of eclampsia or nephritis later.

If, on the contrary, we advance to the latter months, we are apt to find some sort of relation between nephritis and all other pathology for the reason that there is a failure of several organs or systems to adjust themselves to the exigencies of pregnancy. Williams classifies these later toxemias as—

1. eclampsia
2. pre-eclampsia
3. nephritis
4. eclampsia superimposed on nephritis, and
5. the low reserve kidney.

Exactly what pregnancy has to do with a special tendency to the origin or aggravation of a particular form of nephritis is not known. MacNider says that the tendency of the effect of pregnancy on nephritis is to aggravate the nephritis, which may be a glomerulo-nephritis, or tubular, or both. Mussey says that the kidneys of pregnancy may be a purely degenerative lesion of the tubular epithelium. Hyneman says that it is due to a purely degenerative, not inflammatory process. Volhard lists pregnancy as one of the causes of acute glomerulo-nephritis. Now, although as was said above, we may have an eclampsia coming on suddenly and unexpectedly even in a carefully watched woman, we are more apt to have definite warning, what is properly called a pre-eclamptic toxemia, which may be identical in clinical symptoms, urinary findings, and renal function with the acute glomerulo-nephritis of the non-pregnant, though more apt to show certain differences.

What Williams means by the low reserve kidney is a condition accompanied by mild toxic symptoms that disappear under rest, and proper diet, with a blood pressure not above 150 systolic nor 90 diastolic, of albumin only a trace or not over 2 grams per liter, a normal blood chemistry and phthalein output, and no retinitis.

It seems to me that the statement of Mus-



sey that pre-eclamptic toxemia and acute glomerular nephritis of the non-pregnant may have identical clinical symptoms, urinary findings and renal function muddies the water for nothing. The inference is that this is merely a resemblance and not a true nephritis, whereas as a matter of fact we must believe that findings that mean glomerular nephritis in the non-pregnant mean glomerular nephritis in the pregnant. Even Stander's statement that in many instances he is unable to differentiate between nephritic toxemia and eclampsia requires explanation. He says that in the nephritic toxemias of pregnancy with convulsions one is impressed with the absence of symptoms and signs usually associated with nephritic uremia, particularly the lack of total nitrogen retention; that there is, however, a retention of urea so that the blood urea nitrogen to non-protein nitrogen ratio, and the ratio of the blood urea nitrogen to the urinary nitrogen show a marked increase.

MacNider says that in early chronic glomerulo-nephritis in pregnant dogs the retention of the total nitrogen, urea and creatinin is not marked, but that in the advanced form with altered tubular epithelium, existing before pregnancy, there is marked retention of the total nitrogen, the urea and to a less extent creatinin. He says nothing of the ratio of urea to the total nitrogen. The truth of this business has been stated earlier in this paper, and is to the effect that we may expect the kidney diseases of pregnancy to be associated with and modified by other pathology, and that when we bear in mind the physiology of normal pregnancy, so markedly different from that of the non-pregnant, these associations and modifications are rather to be expected than otherwise. In this connection it is interesting to note the blood changes in eclampsia uncomplicated by nephritis, as follows: A hyperglycemia; no increase in the total nitrogen, and a ratio of the blood urea nitrogen to the total nitrogen lower than that of normal pregnancy; an elevation of the uric acid; a high bile index; a very low carbon dioxide combining power; an increase in the ratio of phosphorus to calcium; an increase in lactic acid. These will be referred to again when I take up the question of anesthetics.

One of the difficulties that arises in dis-

cussing the diagnosis and management of nephritic toxemia lies in the fact that we must remember that many babies have to be born in remote country districts far from assistants, nurses, and laboratories; and that the conscientious attending physician is anxious to have available simple methods of study, and practical principles of treatment. However, this is not as difficult as it might seem. Anyone can observe an edema, record the systolic and diastolic pressures, note the site of the apical impulse, examine the palpable arteries, boil the urine in a test tube, measure the total daily amount, take the specific gravity, observe macroscopic blood, and estimate the hemoglobin with reasonable accuracy with a Talquist scale, and none of the following tests are really complicated.

1. The Intradermal Salt Test.—Inject into the skin about 0.2 c.c. of an 0.8 per cent solution of sodium chloride so as to make a small wheal. This wheal should not disappear from the arm in less than sixty minutes, nor from the leg in less than forty minutes. The disappearance time in the negro is somewhat longer. It is markedly shortened in edema, and the same factor or group of factors that produces edema, hypertension, and albuminuria may even in their absence produce the condition in the tissues that gives a decreased disappearance time.

2. The Phenolsulphonephthalein Test—Before beginning the test have the patient empty her bladder. Inject into a muscle 1 c.c. of a solution containing 6 mg. of the phenolsulphonephthalein. Have the patient drink at least a pint of water immediately after the injection. Collect at the expiration of one hour and ten minutes all of the urine possible. (If the patient is unable to retain her urine for this length of time, collect all of her voidings and pool it together at the end of the time.) Collect in a separate vessel all of the urine up to the end of the two hour and ten minutes period. The urine is then made alkaline until the characteristic red color is permanent. It is then diluted up to one litre and standardized against a standard prepared by using 1 c.c. of the phenolphthalein solution containing 6 mg. diluted up to a litre. The second hour specimen is treated in the same way, and the sum of the two represents the total phthalein output for the two hours. Usually the amount in normal in-

dividuals varies from 50 to 60 per cent. Where there is renal damage the amount will be considerably less.

3. The Freshet Test.—At 8 a. m. give 1500 c.c. of water on an empty stomach. Allow no food and no more water for four hours, and collect the urine every half hour. The output should be not less than 1200 nor more than 1800 c.c., and the specific gravity should approach 1003.

4. The Concentration Test.—Allow no fluid, but a liberal diet of solids for a whole day, and collect the urine every three hours. The specific gravity should approach 1030.

a. Mercuric chlorid solution, an accurately of Hench and Aldrich. Reagents required—  
a. Mercuric chlorid solution, an accurately prepared 5 per cent solution of chemically pure mercuric chlorid in distilled water; b. Sodium carbonate, saturated solution in distilled water.

Collection of Saliva: The mouth is well rinsed with water. Chewing of a small piece of paraffin or holding a small marble in the mouth will favor the flow of saliva, but this is not necessary. The saliva is collected in two portions of about 8 c.c. each. The first of these carries off food particles and epithelial debris and is discarded. The second is used for the titration. It need not be filtered.

Method:

1. By means of a pipet transfer 5 c.c. of the saliva to a small flask or beaker.

2. Add 5 per cent solution of mercuric chlorid from a buret or pipet a few drops at a time, with constant stirring, until a drop of the fluid, when added to a drop of saturated solution of sodium carbonate on a white porcelain plate, gives a definite reddish-brown color. The color should appear within about three seconds. If it develops more slowly, the end-point is near, but not yet reached, and a few additional drops of the bichlorid must be added.

3. When the end-point is reached note the number of c.c. of mercuric chlorid solution which have been added, and multiply by 20 to find the number of cubic centimeters which would be required for 100 c.c. of saliva. Record this as the "mercury-combining index."

Hench has found the mercury-combining index in normal persons to lie between 30 and 50 for 100 c.c. of saliva. When there is re-

tention of urea in the blood the index rises with the blood-urea, although it lags a little behind. The probable blood-urea may be roughly calculated as follows:

$1.43 \times \text{salivary index} - 34 = \text{probable blood-urea in mg. for each 100 c.c.}$

Example: Suppose the salivary index were 100. Then  $1.43 \times 100 - 34 = 109$  mg. urea in 100 c.c. of blood.

A word in regard to these tests and albumin. Just as the glomeruli should let through certain nitrogenous substances, even so it is of equal importance for them not to let through certain other substances; and, though there are functional renal albuminurias, and non-renal sources of albumin, it is safer in the absence of positive evidence to the contrary to interpret even a moderate amount of albumin in the urine as indicative of definite glomerular disease. The intradermal salt test is very simple and has the significance described. The phthalein test has not the value originally ascribed to it by Rountree. To be sure the appearance of as much as 60 per cent indicates very accurately that the glomeruli are intact, but the converse is not true. We see too many people with a very low phthalein output in whom, after several years of observation, no other evidence of impairment appears. The freshet and concentration tests are excellent tests of retention. The mercury salivary test is not hard to learn and has a value closely parallel to the more complicated laboratory tests for urea and total nitrogen.

#### THE MANAGEMENT

There are several factors that affect our management of nephritis and nephrosis in general that may be applied to these diseases in pregnancy, but to these factors we must add, certainly except in their mildest forms, the ever present threat of eclampsia, premature separation of the placenta and death of the fetus. In the non-pregnant we are guided by a differentiation between the several forms and an estimate of their severity. The added peculiarities of pregnancy are chiefly an upset carbohydrate metabolism, with a tendency to hyperglycemia; a lower CO<sub>2</sub> combining power with a greater tendency to serious acidosis; an increased permeability of the capillaries with a greater tendency to edema; and an increased irritability of the vasomotor nerves with a greater tendency to hyperten-

sion and cardiac hypertrophy.

Nephritis and pregnancy do not get along well together. Nephritis adds to the danger of other disturbances, and the tendency of pregnancy is to aggravate an existing nephritis. If we could fix our attention in a cold-blooded fashion on disease alone, an ideal state of affairs would be to forbid child-bearing in nephritics, and to empty the uterus if kidney disease originates during pregnancy. However, this would not do at all. The inherent right of a wife to motherhood must be recognized, and our aim must be a viable child with a minimum risk of serious disability or death to the parent. With these two objects in view I will discuss rest in bed; the diet, including food, water, and salt; elimination by diuretics, venesection or otherwise; the use of glucose with or without insulin; the indications for oxygen inhalation; the use of magnesium sulphate intravenously; sedatives and anesthetics; and the indications for induced abortion.

*Rest in Bed.*—The importance of rest increases with the severity of the disease, and the necessary directions should be regulated accordingly. The metabolism of the body as a whole, the nervous system, the cardio-vascular system and the kidneys themselves must be considered. In the mildest cases ten hours in bed at night with two hours in the middle of the day, a reasonable restriction of protein diet, a low salt intake, with limited or forced fluids, may be all that is necessary. In the most severe cases absolute quiet in a darkened room is imperative. So far as possible the patient should not be allowed to speak or move. Chloral and morphine should be used freely. The protein intake must be further restricted, though never below 40 grams. Salt may have to be cut out, and fluids forced, or, on the contrary, greatly reduced, as explained below.

*The Diet, Salt and Water.*—There are several important matters to bear in mind. In the first place in normal pregnancy there is a disturbed carbohydrate metabolism with a poor sugar tolerance; again, from the very beginning there is a hydremia with an upset water and salt balance, and probably an increased capillary permeability. Again, despite the belief that a high protein diet is detrimental to nephritis, we may not lose sight of the dependence of tissue on protein

for maintenance or growth; again, we must not forget the old saying that the fats burn in the flame of the carbohydrates. So far as possible a pregnant woman, whether a nephritic or not, must be supplied with protein, fats, water, vitamins, certain minerals, and of greatest importance carbohydrates.

The question of retention is all important. We may have a nitrogen retention, a water and salt retention, or both. The kidney involvements in the pregnant may be such conglomerate affairs that it is difficult to frame fixed rules. The amount of edema, of nitrogen retention, and the pressure elevation must guide us. Our object is to force fluids if possible, but in the presence of marked general edema, especially if there is any pulmonary involvement, and a falling pressure, we may not do so.

If there are nitrogen retention, high pressure and no edema, the treatment is sparing and eliminative. Reduce the protein intake, but not below 40 grams daily, and force fluids. On the contrary if there is no nitrogen retention, the pressure undisturbed and marked edema, put on a salt free diet, limit fluids to a minimum and do not worry about the protein. Milk alone will not do. There is too much protein for nitrogen retention, and too much salt and water for edema. Maclean's experiments on nephritic rabbits are interesting. He found a remarkable adaptability to protein foods after a certain length of time, provided they were fed green foods, whereas the nephritis progressed on a high protein diet without green foods, and concluded that it may be more important to give the latter than to restrict the former.

*Diuretics.*—As was just said water should be given in large amounts, a half gallon or more daily, if there are nitrogen retention and hypertension, and no edema. Glucose is indicated both as a diuretic and on account of the need for carbohydrates. The alkali-forming salts of sodium and potassium are particularly useful in inflammatory conditions where there is bleeding. The acid-forming chlorids of calcium and ammonium in very large doses, perhaps 100 grains daily, may promote a tremendous diuresis, but the presence of an already existing acidosis makes me inclined to leave them alone. Novasurol is of great value, but is said to be contra-indicated in acute nephritis with bleeding.



One does not like to be superlative, but the amount of urine that an edematous nephritic may put out under the influence of novasulol is very astonishing. Digitalis has its chief use in edema accompanied by cardiac failure, its action being to speed up the flow of blood through the glomerular capillaries. Caffein is to some extent helpful, possibly acting in a similar fashion.

*Venesection.*—I believe that free bleeding is of great value in any uremic disturbance of the non-pregnant, but hesitate to irritate a pregnant nephritic; though Stroganoff, who claims a mortality of less than 2 per cent even in the presence of convulsions, advises it, and does not fear to give chloroform in small amounts, and well mixed with air, in order to obviate nervous derangement incidental to even such a minor surgical procedure.

*Glucose and Insulin.*—Lack of time and space make a full discussion of glucose and insulin impracticable, desirable as it might be. We must remember that approximately 80 per cent of all food must be converted into glucose before we can use it, and that glucose is absolutely necessary for the heat and energy of practically all action. The disturbance of carbohydrate metabolism in pregnancy has been pointed out, and I find no internist, physiologist, nor obstetrician, with the notable exception of Stroganoff, who does not advocate the use of glucose in severe toxemias. His objection does not seem to me to hold water. He states that the intravenous injection of 500 c.c. of glucose solution causes a rise in blood pressure and unnecessary irritation. Hofbauer states that the liver is depleted of glycogen, and advises glucose for this reason and because of its diuretic and cardiotonic effect and in order to combat acidosis. Stander advises insulin to offset the acidosis of hyperglycemia, and lower the lactic acid content of the blood, giving a protective dose of glucose, 2 grams to each unit of insulin. Miller states that the livers of eclamptics who have been treated with glucose lack definite fatty necrosis and periportal hemorrhages, particularly if the utilization of glucose has been facilitated by the administration of insulin. Glucose and insulin cure the acidosis from vomiting and the vomiting from acidosis.

Titus uses large amounts of glucose, 50 to

75 grams as a 25 per cent solution one to three times daily, or when diuresis is especially necessary as much as 3,000 c.c. of a 10 per cent solution. He is opposed to the use of insulin for the reason that glucose is the woman's greatest need and that a sudden fall in blood sugar from insulin action may of itself cause convulsions. It would seem that a proper comment here might be that he did not know how to use insulin, and that there is no manner of use in giving glucose alone to patients too ill to use it without insulin.

Thalhimer reports a unique case of "pre-eclamptic nephritic toxemia," in which the blood sugar reading was 720 mg. per 100 c.c. of blood. He gave 140 units of insulin in nine hours, then 20 units every four hours, forcing fluids, and later guarding the insulin with glucose. He felt that the relief of acidosis and control of carbohydrate metabolism with insulin contributed to the patient's recovery.

Attention should also be called to the effect of hypertonic glucose on the size of the brain, and the possibility of arresting uremic convulsions, relieving coma, and accomplishing a marked fall in pressure. The vasomotor centers are extremely sensitive. The slightest diminution in the rate of flow of blood through their capillaries causes a rise in pressure. These capillaries are surrounded by small lymph spaces. In the nephritic toxemias of pregnancy there is an increased permeability of the capillaries and an upset water and salt balance, with resulting edema of the brain and diminished rate of blood flow in the vasomotor capillaries, and resulting hypertension. An intravenous injection of 20 c.c. of a 50 per cent solution of glucose will shrink the brain visibly, relieve the edema, and encourage a normal flow of blood.

There is a very interesting thought in Hofbauer's paper on histamin. He is reporting his studies on the pathology of the liver, kidneys, uterine adnexa, capillary permeability, arterial tone, etc., in histamin poisoning with the suggestion that herein lies the etiology of eclampsia, nephritis and premature separation of the placenta. He found that the addition of insulin prevented the liver and kidney changes, and thinks that perhaps combatting histamin is a hitherto unrecorded property of insulin.



*Oxygen Inhalation.*—There is a general belief that there is some relation between anoxemia and the toxemias of the latter months. Oxygen acts as a primary cardio-stimulant and retards autolysis. A want of oxygen increases the activity of the vasomotor centres, resulting in a constriction of the arterioles, excites the flow of adrenalin with a rise in pressure and a loss of liver glycogen, promotes the elaboration of cerebro-spinal fluid and increases the permeability of the capillaries. The routine early and continuous administration of oxygen in some toxemias is, therefore, advised.

*Magnesium Sulphate.*—When Lazard first reported his results with the intravenous use of a 10 per cent solution of magnesium sulphate it did not meet with much favor. He has stuck to it, and his death rate is certainly no worse than that of those who do not use it, at least in this country. He does not claim to approach, nor does anyone else, the two per cent of Stroganoff. The idea is that he accomplishes a diminution in cerebral edema and intracranial pressure with a fall in the systemic pressure, a clearing up of coma, and a cessation or prevention of convulsions. If convulsions have begun he injects 20 c.c. every hour until they cease and the pressure falls, then continues its use to combat rising pressure.

Polak is now using it with the same general idea as to the indications, and the possibility of shrinking the brain, but gives 100 c.c. of a 25 per cent solution. Personally I see nothing that cannot be accomplished to better purpose with a hypertonic solution of glucose.

*Anesthetics, Sedatives and Surgery.*—Probably the worst form of treatment of those seriously ill with a toxemia of pregnancy is a cesarean section, certainly with a general anesthetic. This is undoubtedly the consensus of opinion, though Greenhill, using a local anesthetic, does cesarean sections on selected cases of primiparae with viable babies and undilated cervixes. Polak thinks that in the presence of convulsions the treatment is never surgical. Ether, chloroform, nitrous oxide and ethylene will have to be forbidden. Morphine, chloral and cocain may be used freely. Stander points out that the blood chemistry of those under surgical anesthesia and of eclamptics is similar and suggests that the great reduction in mortality when following

conservative rather than radical lines of treatment may be due in part at least to the fact that the general anesthetic has been done away with. There seems to be no reasonable objection to any of them, and the fact that in convulsions or threatening convulsions morphine and chloral are indicated is conspicuous.

*Abortion.*—It is believed that in severe nephritic toxemias abortion should be induced for the reasons given by Williams, namely; first, rest in bed, dietary regulations, etc., do not get good results; second, the child usually dies before the period of viability; third, the parent is in serious immediate danger of death, and fourth, the continuance of pregnancy greatly aggravates the kidney disease and shortens the woman's life. In conclusion Williams' rules of procedure so long as abortion is not induced are so easily modified to suit milder cases, that they are here attached:

1. On admission:

a. To be placed in a quiet darkened room and disturbed as little as possible.

b. To have a special nurse continuously until definitely out of coma.

c. To have one-fourth grain (16 mg.) of morphine hypodermically immediately.

d. To be catheterized, examined medically and obstetrically, and bled for 200 c.c. under nitrous oxide anesthesia, if conscious.

e. To be placed on one side, with the foot of the bed elevated so long as coma persists. Mucus to be swabbed from the pharynx as it collects.

f. To have water freely while conscious. If the patient cannot drink on account of coma or lack of desire, the intravenous administration of 500 c.c. of 5 per cent glucose solution should be considered.

g. Not to be delivered until after the cervix is fully dilated, and then by the simplest operative means, unless spontaneous delivery seems imminent.

h. No chloroform to be used.

i. Chemical assistants to be notified as soon as the patient is admitted, so that the necessary observations can be made.

2. One hour after admission:

If comatose, 2 gm. of chloral hydrate to be given in 100 c.c. of physiologic sodium chloride solution and the same quantity of milk by rectum. If conscious, the chloral can

be administered by mouth in 100 c.c. of milk.

3. Three hours after admission:

One-fourth grain (16 mg.) of morphine hypodermatically.

4. Seven hours after admission:

Two grams of chloral hydrate as above.

5. Thirteen hours after admission:

One and five-tenths grams of chloral hydrate as above.

6. Twenty-one hours after admission.

One and five-tenths grams of chloral hydrate as above.

7. General directions.

a. While eclamptic patients are under treatment, the assistants and nurses must insist on the greatest possible quiet.

b. Catharsis, sweating, or venesection in excess of 200 c.c. must not be employed.

c. No change to be in the schedule unless authorized by Drs. Williams or Stander.

It should be noted that this schedule differs in several particulars from that of Stroganoff, notably in the omission of chloroform, in the use of glucose injections, and in the routine withdrawal of blood. It should be understood that the latter is not for therapeutic purposes, but is solely for obtaining a sufficient quantity for certain routine determinations, as well as for purposes of investigation.

#### REFERENCES

- Rawls, Julian L.: Pyelitis in Pregnancy. *Virginia Medical Monthly*, October, 1925, LII, 433.
- Williams, J. Whitridge: The Toxemias of Pregnancy and the Treatment of Eclampsia. *J. A. M. A.*, February 12, 1927, LXXXVIII, 449.
- Corwin, Jean, and Herrick, W. W.: Relation of Hypertensive Toxemia of Pregnancy to Chronic Cardiovascular Disease. *J. A. M. A.*, February 12, 1927, LXXXVIII, 449.
- Williams, John T.: Pyelographic Findings in Pyelitis Complicating Pregnancy. *Am. J. Obst. and Gynec.*, Dec., 1925, X, 765.
- Mussey, Robert D.: Clinical Similarity Between Eclamptic Toxemia and Acute Glomerulonephritis. *Am. J. Obst. and Gynec.*, June, 1925, IX, 808.
- Lazard, E. M.: Is Magnesium Sulphate Intravenously Warranted in Eclampsia? Clinical Results vs. Experimental Service. *Am. J. Obst. and Gynec.*, June, 1927, XIII, 720.
- Dieckmann, W. J., and Crossen, R. J.: Changes in Metabolism and Their Relation to the Treatment of Vomiting of Pregnancy. *Am. J. Obst. and Gynec.*, July, 1927, XIV, 3.
- Titus, Paul, and Dobbs, Paul, and Willetts, E. W.: The Fluctuation in Blood Sugar During Eclampsia, and Its Relation to the Convulsions; Preliminary Report. *Am. J. Obst. and Gynec.*, July, 1927, XIV, 89.
- Stander, H. J., and Duncan, E. E., and Sisson, W. E.: Chemical Studies on the Toxemias of Pregnancy. *Bull. Johns Hopkins Hosp.*, 1925, XXXVI, No. 6, 411.
- Maclean, J., and Smith, J. F., and Urquhart, A. L.: Effect of High Protein Diet on Renal Function. *Brit. J. Exper. Path.*, Dec., 1926, VII, 360.
- Hench, P. S.: Practical Considerations of Renal Physiology and Function; Their Application to Management of Nephritis. *J. A. M. A.*, July 3, 1926, LXXXVII, 8.
- Leiberman, B. L.: Case of General Edema of Fetus from a Renal Eclamptic Mother. *Am. J. Obst. and Gynec.*, August, 1926, XII, 199.
- Greenhill, J. P.: Eclampsia at Chicago Lying-in Hospital; Immediate and Late Results. *J. A. M. A.*, July 24, 1926, LXXXVII, 233.
- Stander, H. J., and Radelet, A. H.: Blood Chemistry in Eclampsia. *Bull. Johns Hopkins Hospital*, June, 1926, XXXVIII, 423.
- Stroganoff, B.: Improved Prophylactic Method of Treating Eclampsia, with Comments on Variations Suggested by Williams, Stander, Speidel, and King. *Am. J. Obst. and Gynec.*, June, 1926, XI, 756.
- Lazard, E. M., and Irwin, J. C., and Vruwink, J.: Intravenous Magnesium Sulphate Treatment of Eclampsia; Collective Report of 142 cases. *Am. J. Obst. and Gynec.*, July, 1926, XII, 104.
- McNeile, L. G., and Vruwink, J.: Magnesium Sulphate Intravenously, in Care and Treatment of Pre-eclampsia and Eclampsia. *J. A. M. A.*, July 24, 1926, LXXXVIII, 236.
- Thalhimer, W.: So-called Eclampsia Without Convulsions Successfully Treated with Insulin, with Report of Case. *Am. J. Obst. and Gynec.*, September, 1926, XII, 369.
- Stander, H. J.: Studies in Anesthesia, Anoxemia, Anhydremia and Eclampsia, with Certain Deductions Concerning Treatment of Eclampsia. *Am. J. Obst. and Gynec.*, November, 1926, XII, 633.
- McMahon, J. J.: Treatment of Eclampsia with Blood Serum from Eclampsics; Preliminary Report. *Am. J. Obst. and Gynec.*, August, 1926, XII, 249.
- Fluhmann, C. F.: Hypercholesterolemia During Pregnancy. *Am. J. Obst. and Gynec.*, November, 1926, XII, 774.
- Levy, W. E.: Tendency to Acidosis in Toxemia of Pregnancy; Preliminary Report. *Surg., Gynec., Obst.*, July, 1926, XLIII, 38.
- Hofbauer, J.: Experimental Studies on Toxemia of Pregnancy; Can Histamine Poisoning Be Regarded as Etiologic Factor? *Am. J. Obst. and Gynec.*, August, 1926, XII, 159.
- Miller, C. J.: Glucose and Insulin in Toxemias of Pregnancy. *Am. J. Obst. and Gynec.*, June, 1926, XI, 763.
- Bell, J. W.: Postmortem Findings in 10 Cases of Toxemia of Pregnancy. *Am. J. Obst. and Gynec.*, December, 1926, XII, 792.
- Polak, J. O.: Present Status of Toxemias of Pregnancy. *J. A. M. A.*, July 24, 1926, LXXXVII, 226.
- Stander, H. J.: The Blood Chemistry During Pregnancy. *Bull. Johns Hopkins Hosp.*, May, 1924, XXXV, 133.
- Hamilton, B. E.: Heart Disease in Pregnancy. *Boston Med. and Surg. J.*, June 21, 1923, CLXXXVIII, 987.
- Hamilton, B. E., and Kellogg, F. S.: Heart Disease Complicating Pregnancy. *Am. J. Obst. and Gynec.*, April, 1927, XIII, 535.
- MacNider, William DeB.: Development of a Toxic Condition in the Dog During Gestation. *J. A. M. A.*, Jan. 14, 1928, XC, 71.
- Ehrenfest, H.: Normal and Pathologic Physiology of Pregnancy. *Am. J. Obst. and Gynec.*, July, 1926, XII, 58.
- Nelson, Garnett: The Use of Glucose in Medicine and Surgery. *So. Med. and Surg.*, March, 1926, LXXXVIII, 163.

## UROLOGICAL COMPLICATIONS OF PREGNANCY AND THEIR MANAGEMENT\*

A. J. CROWELL, M.D., and HAMILTON W. MCKAY, M.D., Charlotte, N. C.

From the Crowell Clinic of Urology and Dermatology

Urologists, as a rule, see only the surgical kidney complications of pregnancy, therefore our discussion will necessarily be limited somewhat to this phase of the subject; but we will discuss some of the conditions which act as predisposing causes to these complications of study and their exciting causes as well as their diagnosis and treatment.

A great deal is found today in the literature on the causation of renal infection during pregnancy. The many plausible theories have caused a great deal of controversial argument and have been the inspiration for much research to either prove or disprove the cause as it exists. The most plausible theories as set forth by various authors and advocates are as follows:

- i compression of the pelvic ureter by the increase in size of the uterus.
- ii pressure on the ureter from the head of the fetus.
- iii swelling of the mucosa of the ureter with narrowing of its lumen.
- iv edema of the bladder mucosa with complete or partial closure of the ureteral openings.
- v dislocation of the ureter and bladder by the uterus and child.

We present two other factors in the etiology of renal infection during pregnancy, based on material studied in our own clinic:

1. The effect of renal anomalies and infections in the female infant and child on the kidneys during pregnancy.

2. Interference with drainage by ureteral stone in infancy.

One of us (Hamilton W. McKay) has studied the etiology from the viewpoint that urinary infections in infancy may recur or "light-up" during pregnancy, and he will report cases to show there is adequate grounds for this view.

All of these theories have been attacked

and it is only fair to state that none of them has been entirely accepted. (There still exists a general controversy over the theory of pyelitis and pyelo-nephritis of pregnancy.) However, all agree that anything which interferes with the normal elimination of the kidney's secretion inhibits its function, and that undue nitrogenous retention is the result. Vesical neck obstruction is fairly frequent in pregnancy and supra-vesical obstruction is quite common, both of which act as a predisposing cause to kidney infection. Investigation has fairly well established the fact that dilatation of the abdominal ureter is very common in pregnancy. Tally found it in 13 6/10 per cent on the right and 8/10 of 1 per cent on the left and bilaterally in 2½ per cent. Zangemeister has found that 67 per cent of pyelitis occur on the right, 13 per cent on the left and 19 per cent bilaterally.

Kretchmer and Heaney in an analysis of 19 normal pregnancies found the ureters dilated bilaterally in 9 cases, unilaterally in 7 and in 3 cases there was no ureteral dilatation at all. Of the 3 latter cases one was a primipara and two multiparae. They found that these dilatations occurred anywhere from the third to the ninth month of pregnancy. Of the 7 cases of unilateral dilatations, 6 occurred on the right and one on the left. They believe the ureter and kidney pelves are dilated in 80 per cent of all normal pregnancies. Hinman found this same ratio in his investigations. It is not unreasonable to believe that at least 10 per cent of these kidneys become infected during pregnancy and puerperium. Weibel performed cystoscopy in 100 pregnant women, most of them toward the end of pregnancy; 45 were primiparae, 55 multiparae; 40 per cent of the first group and 37 per cent of the second showed ureteral retention. (A dangerous procedure.) He concludes that retention of urine is common in the ureter of normal pregnancy and that it is largely confined to the abdominal portion of the ureter. Other pre-

\*Read as part of the Symposium on The Reduction of Maternal Mortality held by the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th and 15th.

disposing causes of kidney infection in pregnancy are constipation, spastic colitis, hemorrhoids, fissure, fistulae or focal infection in the tonsils, teeth or sinuses.

It is fairly well agreed that the way of entrance of the infecting organisms into the kidney pelvis is through the blood stream, lymphatics, or by ascending infection. The exciting cause of pyelitis of course is the implantation of bacteria into the ureter or kidney. The organisms most frequently found are the colon bacillus, the staphylococcus and the streptococcus, mixed or in pure culture.

Increased frequency of urination, pain in the back, high temperature, vomiting, and albumin, blood, pus or tube casts in the urine are evil omens during pregnancy and call for active measures. Blood chemistry and kidney function tests are advisable. If the non-protein nitrogen is high, and especially if the urea nitrogen should be relatively high, and pus is obtained from one or both kidneys by ureteral catheterization, the diagnosis is evident.

#### TREATMENT

The treatment is divided into—

1st—Preventive.

2nd—Palliative.

3rd—Operative.

*Preventive.*—It is impossible to get rid of kidney infection in cases of poor drainage, therefore, pressure on the ureter should be avoided as much as possible by abstaining from lacing and spending little time on the feet. The patient should spend considerable time each day in the knee-chest position in order to relieve the pressure caused by the pregnant uterus, and especially is this valuable before retiring at night. Constipation should be avoided and free elimination encouraged through the skin and kidneys by the use of water freely, internally and externally. All focal infections should be eliminated. (More painstaking urologic study of female infants and children according to modern urologic methods with closer co-operation and study of the pregnant woman from the beginning of her pregnancy by the obstetrician and general practitioner with the urologist as adviser. This would undoubtedly be a departure from the way urologic complications in infants and pregnant women have been handled in the past and should

prove a preventive measure.) Even though there be indications of ureteral obstruction without infection, ureteral catheterization should never be performed to relieve these symptoms since kidney infection is sure to follow in the presence of hydro-ureter and hydro-nephrosis, and more especially if frequently repeated.

*Palliative.*—The palliative treatment is instituted in cases of infection in the presence of hydro-ureter or hydronephrosis not in the hope that it will eliminate the infection before delivery but hold it in check and carry the patient to term in fair comfort and safety to both mother and child. In such cases urotropin or other urinary antiseptics are valuable. None of them is of any value at kidney level in the absence of hydronephrosis. Should the toxic symptoms become marked, the tongue dry and the fever high, ureteral catheterization and pelvic lavage is imperative. The best catheter made and ones never used previously should be employed. The largest size the ureter will admit should be used. Whether or not the catheter should be retained if either one or both kidneys are infected depends upon the severity of the case and the judgment of the operator. If seen in the early stages of infection, intermittent catheterization and pelvic lavage is usually sufficient, but if the kidney function is greatly impaired, permanent drainage and intermittent pelvic lavage is indicated. Drainage, in the opinion of the majority of urologists, is the important part of the procedure. Any solution used to lavage the kidney pelvis and ureter probably acts as a mechanical cleanser and, we think, warm physiological salt solution or sterile water as good as any. Silver nitrate should not be used where there is marked dilatation of the ureter or kidney pelvis as it precipitates the chlorides in the urine, blocks the ends of the catheter and in this way interferes with drainage, the most important item in the treatment.

*Operative.*—The operative cases are those in which the life of the patient is imperiled in spite of drainage, pelvic lavage, medicines, profuse elimination by skin and bowel, intravenous medication, blood transfusion, etc. Should these fail the responsibility is turned back to the obstetrician, who should without hesitancy bring on labor,



# DISCUSSION, SYMPOSIUM ON MATERNAL MORTALITY

Opened by DR. HAROLD BAILEY, New York City:

It seems to me that this is one of the most amazing symposiums that I have ever attended and the point that especially impresses me is that practically all the specialties are represented. I should judge that the physicians of the Tri-State Association are even more alive to the obstetrical problems that are interesting us up north than we are. Of course, many interesting points were brought up, and I shall mention merely one or two of the chief ones that occurred to me in the different papers.

I was much interested in Dr. Wilson's paper because he took up abnormal obstetrics. The chief point was the treatment of puerperal sepsis, particularly by transfusion. I have had no experience in the treatment with transfusion except as a supportive measure. Late in the disease I believe it is of great value. Dr. Stetson, our transfusionist at Bellevue Hospital, believes it should be given early and frequently in cases of sepsis. We treat our septic patients with polyvalent anti-streptococcic serum and I cannot pass without speaking of it. Whether it acts through its protein or through antibodies is unknown. It reduced our mortality for puerperal sepsis, in 1922, to 15.3 per cent, while in other hospitals in the city the sepsis mortality was 66 per cent. We first used the polyvalent serum as far back as 1910, when Dr. Park inoculated a horse and produced the serum and we continued its use until the horse died seven years later when we could not persuade Dr. Park to make more of the serum.

In staphylococcus infections, when the uterus is large and boggy the use of protein (we use boiled milk) is very valuable.

Another point made by Dr. Wilson was the use of a No. 6 bag in placenta praevia. I never employ anything larger than a No. 4 for induction in placenta praevia unless there is a prolapsed cord. I think the larger bag is very dangerous because when it comes out, if the woman is not already on the operating table, the time for helping her is lost. We have had patients die on the way from the side ward to the operating room. As a matter of fact, we demand that the man who inserts the bag remain with the patient until

she is back in bed after delivery.

I was much interested in the remarks about forceps but I think the statement that they are not tractors is wrong.

I feel that pituitrin should be used only when the head is on the perineum. We never use it at any other time.

As to cesarean section, I believe, once a cesarean always a cesarean, unless the woman has gone into labor. Complete tears in previous deliveries are an indication and further damage should be avoided by taking the baby out from above.

Dr. Baughman brought up the midwife question—dirty midwives. In New York and New Jersey, by follow-up measures on patients reported to be dying of puerperal septicemia, it was found that the midwife could not be held responsible for infections. Midwives keep their hands out, as a rule, and only tie the cord. Thank God, we have not midwives such as they have in Sweden, who put on forceps and do versions.

Dr. Rucker brought out the fact that in Bellevue we have been employing, for several years, trial labor in patients with contracted pelvis. Sixty-six per cent of these patients were delivered spontaneously and only about 10 per cent by cesarean section. We always do the low transperitoneal cervical section.

Arrested cases of tuberculosis are the ones in which we induce abortion. The active case is already lost. We never induce labor in heart cases if decompensation is present and we do few sections and few forceps operation.

I felt quite in sympathy with Dr. Andrews about handling cases at home. In our Berwind Clinic, we have no rooms for patients and as a result must transfer them in any ambulance that we can obtain. Dr. Andrews also mentioned that all patients with contracted pelvis should go to the hospital at the start as should all with placenta praevia and accidental hemorrhage. By transferring patients of this type we have been able to keep our death rate down to 2.6 per 1,000 cases.

About the kidney proposition, Dr. Nelson, we believe that the chronic nephritis case is much more serious than the eclamptic or pre-eclamptic. If the chronic nephritic has two- or three-plus albumin after several weeks in bed, labor is always induced. In using glucose we give fifty grams to a dose. We also

occasionally give these patients theocin, especially if they have a heart lesion in addition to the kidney condition. Theocin causes them to pass a gallon of water in the next twenty-four hours.

We do not use the cystoscope much on our service and we do not catheterize the ureters and do not wash out the pelvis for pyelitis. We depend entirely upon urotropin and lately, to some extent, on hexyl-resorcinol. We give urotropin in large doses, with twice as much sodium phosphate and have been pretty successful.

As to the mental cases, we always believe the wise judge is the one who refuses to take legal deposition from a woman who is pregnant; she is too unstable.

In regard to surgery, I am glad to see such reduced rates for septicemia. From any other way of determining they are rising rather than being lowered. I am surprised to see that it is not the rate from septicemia alone that is rising. There is a rise, we find, in death rates about every six years in tuberculosis and other conditions as well.

DR. F. C. RINKER, Norfolk, Va.:

Speaking entirely from the standpoint of the internist, Dr. Baughman's paper pointed out the importance of the examination of the urine and the blood pressure in pregnancy. In addition to this, as mentioned by Dr. Nelson, in certain cases that are supposed to have acidosis the determination of alveolar air retention or alkali reserve in the blood should be taken into consideration and in many cases determined, because in many of these cases there is alkalosis rather than acidosis.

Referring to Dr. Nelson's excellent paper on cardio-vascular-renal complications, the question comes up of women who already have this condition before pregnancy. In the United States in 1926 there were 1,289,927 deaths. Among those there were 294,000 deaths from heart disease alone. This brings up a serious problem. In this large number of deaths from cardiac disease those of pregnant women form a large percentage. From this comes the understanding that when we have the opportunity, as we frequently do, to advise the woman contemplating marriage, if marriage will relieve a social problem or physical strain or worry I think we may advise

marriage. If not, I think we should advise her very seriously of the danger from the strain of pregnancy and advise her from that standpoint.

DR. A. I. DODSON, Richmond, Va.:

I want to emphasize just one or two things brought out by Dr. Crowell, also by Dr. Baughman. Dr. Baughman stated, as I understood it, that one the worst failures on the part of doctors in examining pregnant women is the failure to examine the urine properly. He mentioned particularly looking for casts and albumin. I would add, also, looking for pus. He also mentioned the importance of not permitting the bladder to overdistend. That is a very important thing to remember. An overdistended bladder is always to a certain extent crippled and always subject to infection. It is very important, when it has become overdistended, to make sure that the patient no longer has residual urine before being discharged. I have often told nurses in the hospital that when the patient has frequency, in obstetrical or surgical cases, one of the important things to notice is whether the patient has distention of the bladder with overflow. If there is I tell them to catheterize after voiding and to irrigate the bladder once a day. When there is continued temperature catheterization is justifiable. If the temperature is high or if there is indication of toxemia the indwelling catheter is indicated.

DR. JOSEPH BEAR, Richmond, Va.:

I think it is the consensus of opinion that cases of pulmonary tuberculosis associated with pregnancy should be aborted, and it is further believed that the therapeutic abortion should take place before the fourth month. Williams of Hopkins; DeLee, of Chicago; Hirst, of Philadelphia; and Trembley, of Saranac Lake, all believe that before the third month is the proper time for therapeutic abortion. I have had several cases recently and in personal communication from Dr. Stengel of Philadelphia, and Dr. Brown, of Saranac Lake, they strongly advise therapeutic abortion before the end of the third month. All cases must be individualized. The operation can be done with comparative freedom from pain, either by using novocain locally or caudal anesthesia. I don't believe in using ether, because of irritation to the

lung tissue. One thing has not been brought out this afternoon, and that is in a considerable number of cases the tubercle bacilli have been found in the mother's milk and for that particular reason the mother should not be permitted to nurse her infant. As Dr. Orr pointed out artificial feeding must be instituted at once.

DR. MARY E. BRYDON, State Department of Health, Richmond, Va.:

The maternity and infancy division of the Department of Health has a very distinct policy that it is pursuing, especially since the Medical Society of Virginia appointed a committee to investigate the midwife situation in Virginia. That committee was mentioned a few minutes ago. Dr. Baughman is the chairman. The policy of the committee is to attempt to get every pregnant woman in the state of Virginia under the care of a physician. There are a great many difficulties in the way of doing that, as of course you know. Perhaps most of you present are from the large cities. Our greatest difficulty about the pregnant woman is in the rural districts. We have large areas in the rural districts where there are either few doctors or none at all, and the problem of having that woman given proper prenatal instruction and proper obstetrical care is almost insurmountable. This is a matter that will eventually have to come before the medical societies everywhere. Although I speak for Virginia, I have talked with directors of the Sheppard-Towner work in other states; and they have the same problem—so often the rural pregnant woman has not access to a physician.

Dr. Bailey said that he wondered whether we have control of the midwives. As the Virginia physicians know, we have a law in Virginia authorizing us to give them permits to practice midwifery. That is done merely to keep in touch with them; it does not give us any authority over them. Our desire is to get rid of every midwife in Virginia; but the result of our careful study in this and other states is that at the present time we must have midwives because of the lack of physicians in the rural districts. At the present time we have public health nurses in only forty-four counties in Virginia, fifty-six counties have no nurses. This is another big problem.

All the physicians in Virginia recently re-

ceived a letter from Dr. Baughman which told them what the committee had decided—that nurses should be instructed to send pregnant women to physicians, and every midwife instructed to advise her patients to have an examination by a physician at least once during pregnancy. We are also getting in touch with the hospitals of the state to see to what extent they will give prenatal instruction or will take care of delivery by having obstetrical beds. I myself have visited five hospitals and find that they are not only willing but glad to extend obstetrical service. I am telling you this to show you that we are moving onward, though slowly.

We hope the time will come when the midwife will be either entirely eliminated, or under the supervision of the physician, and when every woman will be delivered either by a physician or under his supervision. It will take a long time, and the question now is how to have the pregnant woman in the rural districts taken care of until that can be accomplished. Any method you can suggest to us will be thankfully received. As physicians you can not advertise yourselves, but the State Department of Health can advertise you in the families by advice, by literature and through nurses.

DR. CYRUS THOMPSON, Jacksonville, N. C.  
(Being asked by Dr. Crowell to speak):

Mr. President, when Dr. Crowell introduces me as an obstetrician I feel like exclaiming, "Lord, Lord, how this world is given to lying." I am only a general practitioner. When April comes I have been delivering babies for forty-nine years. I am not going to discuss these several papers which have been read, and I don't want you to cut me off in the bloom of my youth by calling time on me in what I shall say, because this society you will understand will give me all the time that I care to make use of. (Laughter.) (President Wilson: Well, sir, I shall endeavor to do my duty.) I recognize that you do, sir, but both of us will follow the pleasure of the society.

I was very glad to hear Dr. Willis say what he did about cesarean section. I have lived long enough to know that there are fads in medicine just as there are fads in politics, religion and every sort of social convention. I know a time when it was the fashion to do cesarean section on comparatively small pro-



vocations. I have practiced medicine and delivered babies, as I said, for well nigh fifty years, but I have never yet come across a case in which I thought a cesarean section was necessary. I have been able to get through some two thousand deliveries by the use of patience, version or forceps. The gods may have been abnormally kind to me.

One thing I want to say about the delivery of babies is this: it requires a vast deal of patience and kindness of heart, and not infrequently much time, and the man who goes to a woman in labor and knows that she is the wife of some man with all that that term means, if he pulls the golden rule before his eyes and treats that woman as if she were his wife or his daughter and does not attempt to save time for himself for the sake of a few dollars at the expense of this woman, this man will in most of his cases, by patience and perseverance and, as the old saying is, a little sweet oil, come through finally without cesarean section or other operations. If there is one evil in the practice of obstetrics today it is this, that the practitioner wants to hurry up, wants to get through, and the woman being impatient to get through he sticks pituitrin in her arm and rushes things on and gets through quickly, to the immense damage of the woman. Now, our friend Dr. Brydon says that she wants to come to a time when all the midwives will be done away with, and every woman in confinement shall have the service of a physician. That is a consummation devoutly to be wished, if we had practitioners enough to take care of all the cases in the country. But we have not enough and we shall never have enough physicians for this service until the trend in society changes. Everybody knows that the drift of doctors is away from the country to the cities and towns.

I made a statement before the Seaboard Society in Norfolk the first week in December, which I shall repeat on this floor: "I do not know whether it is a good thing, under present conditions, to get rid of all the midwives and have all babies delivered by doctors." Our friend, Dr. Taliaferro, comes up and speaks of cervical conditions. We know that most cancers of the uterus begin in the cervix, and men like Dr. Taliaferro tell us that with the general increase of cancer there is also a remarkable increase of cancer of the cervix. We know that cancer is

prone to originate in injured tissue. I made the statement in the city of Norfolk in December that the average woman is better off under the care of the average midwife, who knows nothing and does nothing but sits down and lets the baby come naturally and then ties the cord in two places and takes it away, than in the care of the average physician who gives pituitrin and rushes things and has lacerations, a fertile field for cancer to follow after. Do you agree with me? Well, I am older than most of you. Under these circumstances give time, give time. It is a great thing to stand still and see the salvation of the Lord. Of course you can relieve discomfort while you are patient. If the baby does not come do a version. If it still does not come, put on your forceps. You can take them off whenever you want to.

I wish indeed myself that the midwife could be done away with and wish that inconsiderate practitioners could be done away with, and that all women in the time of their trial could be put in the hands of intelligent physicians; but all physicians are not intelligent, all physicians are not thoughtful and considerate. Too many of them are as big fools with their pituitrin as the average midwife is with her ignorance. Of course I am not talking about any of you fellows, but all of you know fellows that I am talking about.

Now, Mr. President, I am about through. I want to leave one serious definite thought for you to carry back home with you. If some of you have been a little precipitate or know physicians who have been precipitate, recollect this. Nine months after the conception of a baby is the time for deliberation; it is the time for gentleness; it is a time for patience; and for God's sake never save time for yourself at the expense of your patient. Take care of your patient; go slow; go safe. Safety first, safety always. I wish it were the time that you are talking about, Dr. Brydon, but it is not. You are indulging in a very pleasant dream. In all kindness and with sincere desire, as sincere as yours, let me say, dream on, dream on; you have a long night of dreaming ahead of you.

DR. J. BOLLING JONES, Petersburg, Va.:

To me this has been a wonderful symposium. The only trouble about it is there are so many good things in it, so many wonderful papers, that they are more than we



can consider at one time. Unfortunately, the men who are doing obstetrics in our state and I believe in the Carolinas, are not here. From our town of Petersburg, there is not a man here except myself. The man there who is doing the most obstetrics rarely ever goes to a medical meeting. I believe the majority of us who are here have all read these things in the literature. I am still doing obstetrics and surgery and am still deeply fond of obstetrics. There ought to be some way by which we can elevate in the minds of the average doctors the position of obstetrics to the one it should occupy. Why average doctors do not appreciate the importance of obstetrics I do not know. Perhaps because the average man will drift in and say his wife is going to have a baby. If you ask him if he has spoken to a physician he will say: "Yes, I have told him I shall need him at a certain time." Gentlemen, the average woman should be in exactly the same condition when she gets through labor and be restored to society in the same condition as when she started pregnancy.

DR. M. H. WYMAN, Columbia, S. C.:

May I say a word in connection with Dr. Crowell's paper. When a catheter is placed in the ureter to drain the kidney if it is left for twenty-four or forty-eight hours an edema of the mucous membrane of the ureter develops. The presence of the catheter which insures free drainage of the kidney will reduce the temperature very quickly, but when the catheter is removed, on account of the edema of the mucous membrane of the ureter causing a temporary stasis, the temperature will recur, but do not replace your catheter for at least twenty-four to forty-eight hours, bearing in mind that it takes about that length of time for the edema to subside and insure free drainage from the kidney. A very large catheter left in the ureter over long periods of time will certainly cause a pressure necrosis of the mucous membrane of the ureter and cases are on record where the ureter actually sloughed with a resulting rupture. In these cases I frequently put in two catheters, say a No. 7 or No. 8 and No. 4 or No. 5 French size. By this method you may lavage very slowly and gently through the smaller catheter, allowing the fluid to return through the larger catheter. After the larger particles of

debris have been washed from the pelvis of the kidney, the smaller catheter should be removed and it is safe then to leave in the larger catheter for several days if necessary.

If an in-dwelling catheter blocks and we are unable to open it by lavage, it should be removed immediately.

The main thing for the obstetrician and general practitioner referring a case to the urologist for drainage to expect is a slight rise in temperature following the removal of the in-dwelling catheter, this rise of temperature being explained by the resulting edema of the mucous membrane of the ureter. This edema will subside in a day or two and free drainage will then be established and much has been done to relieve the patient of the pyelitis.

DR. L. A. WILSON (closing on his part):

Dr. Nelson implied that the heart was not affected by pregnancy. Normally, no; but in the toxemias it is one of the most serious complications.

Dr. Bailey asked about blood transfusions in the treatment of infection. I give them in depleted cases as a prophylactic measure, and believe they are the best way of building up the patient's resistance.

In reply to Dr. Bailey's question about the size of the Voorhees bag to be used in placenta praevia: It is best to select a bag that is the size of the child's head. I use a No. 6 bag for a full-term child but a smaller one for a premature case, a No. 4 or 5. Why use a small bag and then not have the cervix dilated sufficiently for rapid delivery when it is expelled?

There are many points that I would like to discuss but time will not permit. A survey of the obstetrical deaths in South Carolina shows 50 per cent due to complications occurring during pregnancy and the other half due to complications of labor.

DR. M. PIERCE RUCKER (closing on his part):

There is just one point I shall mention in the early diagnosis of pregnancy in the presence of tuberculosis. Of course those cases in which you are going to interrupt pregnancy should be done as soon as possible. Lipiodol injection and x-ray examination has been of great help to me. I have been able to establish the diagnosis of pregnancy in that way just after a period has been missed and before nausea has been started.

DR. A. J. CROWELL (closing on his part):

As Dr. McKay was cut off this afternoon for lack of time from demonstrating his idea that anomalies of the kidney and ureter are a predisposing cause to infection, which is likely to occur throughout life and especially when pregnancy occurs, I should like for him to finishing showing his slides.

DR. HAMILTON W. MCKAY (closing on his part):

I have no desire to prolong the discussion, but I did not show the most interesting slide I have. A woman eight months pregnant who entered the hospital in extremis, who had been under the care and treatment of her family physician for six weeks, having been taken with pain over the left kidney, high temperature. On admission to the hos-



CASE No. 1—Fig. i

Uretero-lithotomy at fifth to sixth month of pregnancy. Successful termination of the pregnancy.

pital she had a septic temperature with a range of 102 degrees to 104 degrees, which did not respond to bilateral renal drainage with ureteral catheters. I immediately called an obstetrician in consultation who decided that the patient's condition was too grave to permit of induction of labor but who later did induce labor after the patient had had



CASE No. 1—Fig. ii

Showing enormous dilatation of ureter and kidney following operation.



CASE No. 2

Showing silent stone with hydro-pyelo-nephrosis. Patient's kidney drained with ureteral catheter from fifth month to termination of pregnancy.



CASE No. 3

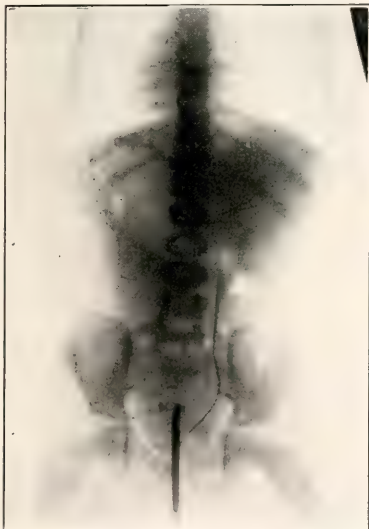
Double kidney, upper ureter entering lower ureter anteriorly making good drainage impossible. Labor induced at eighth month as life saving procedure. Ureteral catheter drainage failed to relieve toxemia.

two transfusions. The patient made a rather stormy recovery and before leaving the hospital we decided to do a complete urological study as a matter of record and interest. The x-ray film which I present is of particular interest, not because it shows simply a double kidney, but on account of the way the Y ureter is formed. If you will notice where the ureter from the upper pelvis joins the ureter from the lower kidney its position is anterior to that of a normal ureter which makes the drainage of the upper kidney pelvis imperfect at all times. This is clearly shown by the difficulty with which the upper pelvis of the kidney filled. The point this case illustrates and which I desire to bring forcefully to your attention is that quite a percentage of the so-called cases of pyelitis of pregnancy have had the soil already prepared and in reality have abnormal conditions of the kidney before pregnancy takes place. Therefore, a certain percentage of urinary infections of pregnancy are not due to the pregnancy itself but only aggravated by this extra burden. The above case is a clear-cut example of poor drainage from infancy and



CASE No. 4

Showing ureteral stone with infection in girl three years old. Stone removed but infection still present. Illustrates type of case that is likely to have trouble if patient becomes pregnant later in life.



CASE No. 5

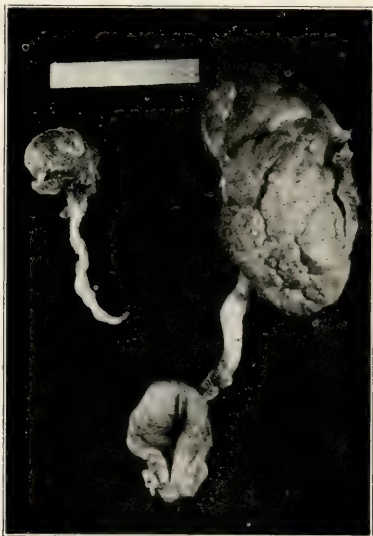
Girl 5 years old, showing narrowing at uretero-pelvic junction with poor drainage. Type of case that will have serious trouble with kidney should pregnancy occur later in life.

an anomalous condition which from a surgical standpoint can only be relieved by resection of the upper portion of the kidney. In other words, if this same young woman becomes pregnant a second time she will not only have a repetition of the above condition, but in my opinion she can never have a normal pregnancy. The drainage on this side will always be poor from the upper pelvis unless resection of the upper pelvis and upper portion of the kidney is done.

Dr. C. C. ORR (closing on his part):

There is just one point I should like to emphasize. We hear much nowadays in regard to the periodic health examination. I know of no class in which it is more important than in the pregnant woman. I think when the pregnancy is established and she goes to her physician he should go thoroughly into the history of the case. If a history of tuberculosis in the family is given she should have a most careful examination and tuberculosis should be entirely ruled out. Not only that, she should be most carefully watched during her pregnancy. This is a most important point and one that we should keep ever in mind.

(End of Discussion)



CASE No. 6

Girl four years old, arrested development of right kidney, poor drainage opposite side. Example of renal anomaly which would be sure to produce serious trouble if pregnancy took place.





## More Essays On

# HOW THE FAMILY DOCTOR CAN INCREASE HIS USEFULNESS AND HIS INCOME

Submitted for improvement of the Status of the Family Doctor—Stimulated by prizes offered through Southern Medicine and Surgery

DR. C. C. HUBBARD, Farmer, N. C.

The first thing the family doctor should do to increase his usefulness and income would be to take an inventory of himself—physically, mentally, spiritually. The motto of the Boy Scouts cannot be bettered, “physically strong, mentally awake, and morally straight.” Fortunate indeed is the physician who can measure up to this standard. Most men have some physical handicap, either inherited or acquired, and these, as far as is possible, should be corrected. The want of properly fitted glasses has been the cause of many wrecks in body, mind and morals. But what cannot be corrected must be bravely endured. The late Dr. R. H. Lewis was a fine object lesson for us all.

He must be prepared to meet the conditions of today. Successful work means thorough preparation. No man ever became really great by chance. P-l-u-c-k spells the kind of luck that tells. The average age of the family physician in the United States today is 56. All who have passed that age must now unlearn many things that were taught them a quarter of a century ago, because medical research of today has proved them to be untrue. We must keep pace with modern medicine. Blood chemistry, biochemistry, elimination, infection, and blood pressure demand constant attention, as well as electric therapy in all its branches.

Attendance for a few days at a time two or three times a year at some medical school is possible, and of inestimable value; not for special post-graduate work, but for attendance on ward class, dispensary and clinic work, along with such didactic lectures as he may be able to attend, and any post mortems available at the time.

Post mortems in his own work would be of great help, and many more of them could be held by the general practitioner for the asking.

Dean Davison of Duke University, in his address before the State meeting at Durham, spoke of the facilities for study that will be

available to the general practitioner at that institution. This will mean much to the profession in North Carolina.

Next in importance to his physical and mental equipment is a plainly but neatly furnished office, and a common-sense office assistant. Every physician is supposed to have the necessary instruments with which to work, but they should not be on exhibition in his office.

The general practitioner should cultivate an attractive personality, and to this end should study his manner of approach, and method of speaking. A quiet, unexcited manner does much to quiet nervous or excited patients. He should not neglect his personal appearance. The best way to define a gentleman is to divide the word—gentle man. In medicine, a gentle man is invariably a gentleman. An unethical man is not of this class. To be successful in the truest sense he must uphold the medical profession and work for the common good.

A family physician who comes in touch with the same people for many years learns their family history, their faulty traits, their personal peculiarities, and their troubles as no other man can do. He gets glimpses of all the family skeletons in all the closets, and becomes familiar with all the burdens borne by his patients, and this gives to him, if he cultivates a sympathetic spirit, his greatest opportunity to influence them for good. He will be able to look at any situation from the patient's standpoint, and for this reason can help him, not only by treating his physical ills, but by leading him to higher things mentally and spiritually.

Everybody sometimes feels the need of a friend on whom he can lean, and if the family physician has so lived that his patients can feel that he is a comfort and support to them he has attained a high degree of usefulness. Because the patient is dying of an incurable disease is no reason why the physician should cease to attend him. Some of

the finest work of the doctor is done when the shadows in the valley grow dark, if the family can feel that he is a stay and comfort to them. A young father who had just lost a child from meningitis said to the physician who attended it, "Doctor, you will never know how much your presence was appreciated. We felt that you cared for us, that we could lean on you."

To sum up—if the family physician pre-

pares himself thoroughly for his work, uses the best equipment it is possible for him to obtain, is a true man and a gentleman, treats all other practitioners ethically, is a friend to all his patients, uses his best judgment in every case with an educated conscience as his guide, and, having done his best leaves the results with a Higher Power, he can make his income what he wishes, and still not be extortionate.

DR. EDWARD E. ADAMS, Murphy, N. C.

The country doctor was formerly the most useful man in his community, as a rule, and usually the most influential. The old-time country doctor left a wonderful heritage to his successors, love for and loyalty to his profession, love for and service to his patients. He it was who inculcated into the minds of the laity that service to humanity came first for the medical profession, before family, before friends, before pleasure. And he it was who taught the following generations of medical practitioners the true meaning of loyalty to the sacred duties of the profession. He never questioned the ability of his patients to pay his small fees; he did not care. He was there to do his work, and he did it. Too often his old age was spent in poverty, if he lived that long. Too often his family, had he one, had the least advantages of any in the community. The old-time country doctor practiced medicine because he loved his profession, and because it was instilled into him to render service.

And thus, by his example of a lifetime of hard work with little or no reward in worldly goods, he taught the following generations of medical practitioners that first and foremost must come love of his profession and service to the sick. But on the other hand, generations of the country doctor have taught generations of the laity that the doctor's fee may be paid last, if at all. With their heritage of loyalty and service, the modern general practitioner must have the disadvantage of educating the modern laity to the fact that the physician must live, and unlike the old country doctor, who drew most of his living from his farm, their only means of support is the collection of fees for their services.

How to increase the usefulness of the family doctor? First let us mention a few of the

daily duties of the family doctor, who of a necessity must be a general practitioner. There is an illness in the home and he is called. One of the children is sick, a simple malady which he quickly disposes of, or a dangerous illness. Usually he is able to care for the child in this also. If not, he calls the pediatrician in consultation, works with him during the illness of the child, attends it during its convalescence, after the specialist is no longer needed, and guides it back to health. The pediatrician may never be in that home again. He is a specialist in his field, and is called only in dangerous illnesses. The family doctor is called again at the next illness, probably of the mother. If a simple condition he attends the mother; if a gynecological or surgical emergency he calls the gynecologist or surgeon who operates, and then the family doctor guides her back through convalescence to health. The surgeon or gynecologist may never be in that home again. The family doctor is called first in all illnesses. If of a medical nature he is usually the only one in attendance. And in most instances, too, the specialist is never needed. The family doctor is capable, has a wide experience, attends the mother, father or child in their various illnesses; he alone becomes familiar with their physical condition, he it is who supplies the medical history to the specialist. He becomes the friend and in many instances the counselor and confessor of mother, father and children. He is closer to them than anyone outside the family, and often closer than other members of the family. The family doctor is in a position to be a very useful man to his patients, young or old.

How increase his usefulness? How better than to follow the teachings of our own Dr.

Chas. O'H. Laughinghouse, our able leader in his fight to promote health by prevention of diseases. The foremost duty of the present-day physician is to prevent diseases rather than cure them. And as we know, the prevention of disease in infants and adults depends first upon educating them along that line. Who is better able to do that than the family physician? What opportunity does the surgeon, the gynecologist, the obstetrician, the oculist, the pediatrician have to educate a whole family in the art of caring for their health in comparison to the family doctor, when they of the former are in the home only two or four times a year, or a lifetime, and the latter is in the home regularly? The educative program of Dr. Laughinghouse must be carried out by the family doctor. He only has close contact with each member of the family. He has their confidence.

Dr. Laughinghouse pointed out recently that since 1890, in the State of North Carolina, the life expectancy of the average individual had been raised from 48 to 58 years. A great record, a wonderful accomplishment. But how was it done? Mainly by decreasing infant mortality. Mainly by decreasing the morbidity rate of childhood diseases, thereby permitting more children to grow to adult age without being maimed by the ravages of diphtheria, scarlet fever, pertussis, measles, typhoid fever, and their sequelae. No family doctor is doing his duty to his patients who does not see to it that each child has anti-toxins for diphtheria, scarlet fever, pertussis and typhoid fever frequently enough to insure their safety from these diseases if possible; no family physician is doing his duty who does not teach the parents the danger of these diseases, and who does not see to it that the child has attention during such an attack. Are there many parents who would not appreciate this interest? There are some, yes. But is that not due to a lack of knowledge of the dangers of these diseases, a lack of training, of education, and is it not the duty of the family physician to educate them along this line? And is there a physician loyal to his profession and to his people who will not willingly bear the brunt of any criticism that may arise if he knows he is doing his duty? All new ideas are criticised, but largely due to a lack of information about them. All leaders are criticised, whether their

crusade is for good or bad. But would they be leaders in any cause if they could not stand criticism? And again, is not the cause a worthy one?

It was further pointed out by Dr. Laughinghouse recently that while there had been a gradual decrease in deaths due to diphtheria, scarlet fever, pertussis, measles, typhoid fever, and tuberculosis—largely childhood diseases—there had been a marked increase in the morbidity rate in heart and kidney diseases, and cancer, among adults. Advocate complete physical examinations regularly, was his plea, semi-annually, or at least annually. The large majority of heart and kidney diseases may be prevented, or at least controlled, if caught in their incipency, and the mortality rate greatly reduced, either in controlling the disease or the patient. And as everyone knows, early operation in cancerous conditions is the only successful and really satisfactory method of treatment. The only method of finding these conditions in their incipency is in giving periodic physical examinations. It is usually too late when the patient comes with symptoms. The writer has had the habit for years of having a complete physical examination on his birthday each year. It is the best present one can give oneself, and easily remembered. It is good insurance. Again the family doctor is in his element. He can advocate periodic physical examinations to his patients. He alone can educate them to that idea, because he sees them often, knows them well, and they have confidence in his advice.

Each practicing physician realizes that his small and inadequate income is really a result of his own carelessness, in failing to impress upon his patients when he first begins to practice in a community or in a new family that he must have his fees, and that, to be a successful physician, one must have all the aids of modern science and drug combinations, and that these cannot be secured unless he collects his fees. Again, most physicians, when they do mail out statements, do so in a half-hearted way, irregularly, and usually several days later than his patient gets all other bills. Naturally the average patient would believe that his doctor's bill could wait until his more pressing bills are paid. The physician unconsciously encourages him in this belief. We that the family doctor's in-

come can be greatly increased by being as business-like in his patients' accounts with him as he himself is with his grocery account. Let his patients understand from the first that he expects prompt payment of his bills. Let the physician mail his statements early and have them waiting on his patient's desk to be among the first to be opened. Send the statements regularly, and have a perfectly frank understanding with his patients that the extension of their credit on his books will be in direct proportion to the promptness with which they meet their obligations.

The facts in the above paragraph are well known, and while we believe that upon them depend primarily the increase in the income of the family doctor, we believe, also, that the average physician in general practice, the family doctor, is neglecting a very important factor which would not only probably double his income, but also his efficiency. We refer to the recently developed aids in treating various diseases, especially intravenous and electro-therapy. "Examine your patient," Dr. Burrus urges. "Listen to him and give him a thorough examination. He wants it, expects it, and will gladly pay for it." And we add this injunction: When you have complied with the above request, give some thought to what you have found, its probable cause, and use modern treatments, which you must familiarize yourself with, along with the prescriptions you give routinely in such conditions. Intravenous and electro-therapy are daily becoming more popular with those of the profession more familiar with them, and with the laity. Stop trying to "build up" that chronic case with oral administrations and try thirty intravenous injections of a well known tonic preparation, or give them together. You will see a marked improvement we believe. Stop "painting" those chronically inflamed tonsils, or prescribing gargles. Try electro-therapy on them if the patient will not have them out. Grow with your profession. Keep alive. Our idea of a physician who has waited too long to retire is one who has patients ask him about improved methods of treatment instead of his suggesting the same to them. Parents, we repeat, are more

concerned over the health of their children than they are over their own. It is the duty of the family doctor to see that the little ones among his patients have their prophylactic and preventive serum treatments regularly. It should not be necessary for school boards to make it obligatory for school children to have these antitoxins. Some physician is neglecting his duty when this occurs. And is not that physician neglecting his duty when he has a patient come to him suffering with a well developed case of kidney, heart or lung trouble, or cancer? We think so. The remedy? Periodic health examinations.

Rarely do we have a patient come to us suffering with a condition for which there has not recently been developed a treatment of merit. Why not familiarize ourselves with these modern weapons and use them? Are we doing our duty to our patients, our profession, and to ourselves if we do not? All of us have patients suffering with chronic diseases which we have failed to benefit depending upon old methods of treatment. There is some remedy that will benefit these patients to some extent, and some physician will prescribe the same for them. Why not their family physician? They expect it of him. Why does the young physician, just beginning his practice, develop a good practice rapidly, irrespective of the number of older men in his community, and in spite of his lack of professional experience? It cannot be more personality in every case because experience develops personality in the physician, as in everyone. Is it not because he is more familiar with modern methods of treatment, being also familiar with the older methods through the written experiences and teachings of his elders? We believe that here is a great field in which the family doctor can increase his usefulness and an excellent method of increasing his income. Let us work at our profession. Let us develop a better vision, especially for those things under our eyes. Yes, let us look more closely and see much better. Let us think more often, and more profoundly, and work continually, consistently, and again, continually.

---



DR. F. L. KNIGHT, Sanford, N. C.

The doctor is a public servant and must take frequent account of the increasing opportunities for service and usefulness to the community. Of these the field of public health has assumed a new magnitude. The general practitioner should insist on the immunization of every child under his care before school age against smallpox, diphtheria, and typhoid fever. Vaccination offers a great field for usefulness if not pecuniary reward. It is in preventive medicine that we stand head and shoulders above the most ambitious claims of all the cults. While the doctor should encourage county and municipal support of vaccination, he should insist on reasonable pay from those treated in his office.

In line with preventive medicine is preventive crime and the doctor's relation to it. Every doctor should appoint himself a committee of one to crusade for municipal playgrounds. The value of these new agencies to promote health and happiness and combat juvenile delinquency has only recently been realized. The city of New Orleans has found that there is a direct ratio between the percentage of delinquency in a given section of the city and its proximity to a public playground. No one is in a better position to drive home the facts in the case than the man who goes into the homes and treats diseases due to lack of sunshine and fresh air.

Medical experience of the benefits derived from the periodic health examination of apparently healthy persons is sufficiently widespread to make detailed discussion superfluous. Most physicians are aware of the material reduction in infant deaths accomplished by supervision of the feeding and hygiene of healthy babies from birth to the age of two years. Almost daily some supposedly healthy adult is suddenly stricken with a disease whose only cure lies in early diagnosis and treatment. The average adult accepts certain abnormalities such as overweight, constipation, and nycturia as part of the cross of old age and has resigned himself to these conditions. The comparison of the human machine to an automobile is a time honored illustration of the importance of periodic overhauling. We must educate the public to pay us to keep them well. A doctor does

not charge for the drugs that he prescribes, but for the advice that he gives, and a healthy man should count it well worth the fee to be told that he is physically well or that he has something that can be easily remedied. The inspection of school children has already reached a fair degree of proficiency, and many minor diseases and faulty habits are corrected in their incipency. The periodic health examination offers the doctor a golden opportunity to serve his fellow man and at the same time add materially to his own income. This is not always the case with the physician's services. Many unjust demands are made upon his time and inroads into his field of labor. The abuse of the free clinic is one of the most glaring examples.

Every year ten million people take advantage of the free medical treatment offered in the clinics and dispensaries. Anybody living in a city of considerable size can obtain skillful medical attention for nothing. What must eventually become of the practicing physician who must work for a living, if he is forced to compete with a high grade of medical service rendered free? No doctor is opposed to the free treatment of people unable to pay, but all too often he sees in the line at the clinic those who are able to pay. It is an imposition on any charitable organization to provide free treatment for such patients and it is rank injustice to the medical profession to have its legitimate source of income thus curtailed. We believe every clinic should exercise more rigid supervision of those who share its bounty.

Two suggestions are offered as remedies for this situation. First, that the clinic should treat only patients who have been referred and recommended by a doctor. This is not always practicable. Second, that the clinic should give its clientele a thorough financial as well as physical examination and determine his worthiness to enjoy charity. There is also the debatable question of the duty of a physician to tender his services to a clinic free of charge. By giving free service the doctor competes with himself. We see no reason why he should not be paid for work in a dispensary unless its services are limited strictly to the needy.

The unity of the medical profession is absolutely essential. By it we reinforce the

confidence of the public in us and can thereby broaden our usefulness. No doctor gains anything by knocking or belittling a colleague and only lowers the bars for public criticism of the profession. It is now admitted that one of the best defenses against the inroads of cults is a solid co-operating medical society. Every physician should be a member and attend one. The National Board of Medical Examiners offers a further step toward standardizing the medical practice laws. It will prove a great bar to cults.

When a man has spent seven to ten years at a cost of thousands of dollars in careful preparation for his profession he expects and deserves a reasonable reward for his services. While I do not believe in exorbitant charges, we must remember that people have a habit

of estimating the value of commodities and services alike according to the price they have to pay. No fixed standard of prices can be regulated for medical services like the price of a pair of shoes, but the doctor must give the very best service he is capable of and ask the person to pay according to his ability.

If the family doctor is becoming more rare, he is at least becoming more modern. Medicine is progressive and is today one of the most jam-up-to-the-minute of the sciences. With the improvement in auto and airplane travel he now rushes to the aid of the stork or races with death at a speed of fifty to one hundred miles per hour. May his tribe increase.

DR. D. H. REED, Kenansville, N. C.

The title "family doctor," it is presumed applies to the physician in general practice as distinguished from those who are limiting their labors to the various specialties. So applied, the subject of this essay is of growing interest to a large number of the profession. In our profession where, ideally, the fullest and most unselfish *co-operation* should obtain, it is sadly true that *competition* too largely supplies the stimulus to consecrated personal endeavor.

Because of the constant advance in the several sciences that pertain to our art, the demand is ever more and more urgent that the family doctor shall be a constant and thoroughgoing student of whatever pertains to his work. In too many instances, financial and other considerations shut us up to the necessity of doing the best we can with the talent and equipment at hand. Hence, while manifestly impossible for all to specialize, yet the daily demands upon the family doctor necessitate at least a fair knowledge of many conditions which confessedly might be more satisfactorily treated by the specialist if available. And just here is the family doctor's opportunity to shine brightest in his accustomed sphere and thus inspire among his patrons a confidence that will be of immeasurable value to both him and them. And this leads naturally to the next factor in the problem at hand.

*Adequate equipment* for the family doctor

includes, among other essentials, literature, instruments of precision in diagnosis and skill in their use, and, almost as important, association with capable fellow practitioners, at least occasionally. While it is true that an automobile is an expensive item in the doctor's equipment, the lack of a car of dependable goability would be much more expensive. And the same observation is not less applicable to a number of other things that will readily occur to the minds of any who may read these suggestions.

*A proper respect for one's limitations* would seem a not inappropriate element in the mental furnishings of even the most proficient among us. While timidity is not, generally speaking, a factor in any sort of progress, its extreme antithesis might prove at times both embarrassing and costly. He who knows enough to keep hands off might be even more desirable in certain circumstances than the member of a class who are said to "rush in" where another, even though regretfully, would acknowledge his insufficiency and act (or react) accordingly.

Another means of helping and growing is to stick around in readiness for the next call. Sports are alluring, and vacations sometimes call insistently; but there is sufficient variety in the demands upon the family doctor to prevent a fatal stagnation from monotony. Yet clearly, this always-on-the-job policy must not be so unrelenting as to prevent

proper diversion to keep himself physically fit.

A real, intelligent and kindly interest, not alone in his patients but in their families, giving advice which might often save a doctor's bill, by strengthening the ties of friendship, would promote both usefulness and income.

Judicious participation in activities aimed at conservation of the public health will serve both ends, proving the doctor a real friend to the community, and so bringing the people to him for advice and service when needed.

DR. NEWTON G. WILSON, Madison, N. C.

There are so many variants in discussing a subject of this kind that it seems to me impossible to systematize and at the same time give proper scope to the subject matter. The ideas that present themselves are; honesty of the family physician in his contact with his clientele, medical education, study, recreation, fees and collections.

The family physician should be absolutely honest in his dealings with his patients. As a physician, he is supposed to know and does know a great many things that his patients do not know. But he should remember that this is an era of enlightenment and that his patients possess a smattering of chemistry, physiology, bacteriology, food values, and the necessity for vitamins in the food. They also know something of disease prevention by vaccines, antitoxins and serums. They know something of disease treatment by drugs, chemicals and biologicals.

The family physician must possess an intimate knowledge of the value of each of these agencies in any given condition or disease. It is just as much his duty to his clientele to advise them in matters pertaining to disease prevention and health conservation as it is to treat them conscientiously and judiciously for a specific disease.

Periodic health examinations for infants, children and adults should be universal. If the family physician has the full confidence of the community in which he lives his field of usefulness as well as his income will increase with the increase in periodic examinations. No field of medicine is more important

In brief, it would seem that in this day of keen competition and intense specialization, the surest road to increasing personal usefulness and prosperity, lies in the way of continuing intellectual growth coupled with a Christ-like spirit of service, and intelligent preparedness for service within our proper sphere. Actual proof of ability and readiness to serve will surely lead to increasing opportunities.

Furthermore, and fortunately, and quite to the point, someone has preceded me in the pregnant discovery that

"He profits most who serves best."

ant nor more necessary for the preservation of health and the lowering of morbidity and mortality than periodic health examinations. No branch of medicine is being so neglected at the present time.

The family physician's co-operation with the existing health and welfare organizations will show immediate and important results in lessening morbidity and mortality, promoting health and efficiency and increasing the usefulness and happiness of his community and himself.

The relationship between the family physician and the health, happiness, usefulness and efficiency of the individuals in his community is something that the physician of the future should ponder and essay to understand. The community is ready to be led. Health conservation propaganda and disease prevention literature is being widely disseminated. Some of it is valuable and distributed by properly constituted health agencies, but a lot of it is pernicious and is being disseminated by quacks of every known variety. The family physician should step into this breach and become the leader that his knowledge and training has fitted him for. His field of usefulness here is broad, and if he is absolutely honest with his clientele he will lay a foundation for a practice rich in service and commensurate financial returns.

In discussing medical education many factors should be considered. The medical colleges of today are turning out men who have been well trained. It is practically impossible at the present time for an untrained poorly



equipped physician to secure license to practice. However, medical education is lifelong and most men in general practice neglect to read and study.

In some instances the only reading they do, is to hurriedly look over the leaflets sent out by the leading chemical, drug and biological houses of the country. This is, possibly more pernicious than not reading at all. The impression gained is often not knowledge of the actual value of the medication in question but a biased view of its indications. I do not mean to state that this literature should not be read; it should be, and very carefully, too. The thing that I insist upon is that collateral reading should be done in connection with this literature. The family physician of today cannot increase either, his usefulness or his income unless he is familiar with modern medical literature, including especially, clinical symptoms, bacteriology, pathology, etiology, therapeutics and the basic facts in disease prevention and health conservation.

In using the term disease prevention, I do not mean the immediate prophylaxis in a specific instance but as it pertains to families and communities. There is a rapidly growing literature on disease prevention and health conservation from the pens of some of the brightest minds in the field of medicine today. It is essential that the family physician be acquainted with the purport of it.

The medical education that the family physician can obtain from his own clinical material is invaluable, even though he has no bizarre nor unusual cases for his study. Observation should be his watchword at all times. There are so many minor observations that may determine major eventualities that no physician may excuse himself for not carefully studying his own clinical material. Observation of all of the clinical symptoms is usually sufficient for a diagnosis. Every family physician can and should cultivate his faculty for observation; but every family physician cannot have the advantage of laboratory facilities. Even those who have, often rely too much upon the laboratory and too little upon their own powers of observation. With an increasing number of physicians, the penetrating observation of clinical signs and symptoms (possessed by masters of the past), has become a lost art.

In discussing recreation for the family physician let us use the literal meaning, to *recreate*. No man can do good work if he is tired mentally and physically. This is the usual state of the family physician. He has no rest periods. He is not master of his own freedom but is a slave to his patrons. No weather is too inclement for his work, nor roads impassable if duty calls.

His patient must have succor. After the urgency of the patients' needs have been attended to the physician should consider his own condition. If he is conservant with the best literature on health conservation he will know that he is, riding to a fall, unless he calls a halt. His family has a claim on him, too. Fanny must have hats and frocks, Johnnie and Bessie must have books and clothes, another "Henry" must be bought to replace the one smashed in the ditch, fuel and various other things must be paid for. His fees will not suffice for all this if he works the same number of hours as other men of his station in life.

The family physician of today must put in seven years in college, medical college and hospital after completing high school, before he can earn a fee. A modest estimate for the first six years in books, tuition and board, with room, will be six hundred dollars a year, thirty-six hundred dollars. His earning power for the seven years would have been; first year nine hundred dollars, second year one thousand dollars, third year twelve hundred dollars, fourth year fifteen hundred dollars, fifth year eighteen hundred dollars, sixth year two thousand dollars, seventh year twenty-four hundred dollars. This with the thirty-six hundred dollars actually spent gives a total of nearly fifteen thousand dollars that he must earn before he can begin to accumulate for himself. He will be about thirty years old when he begins practicing and middle aged when he reaches the point where he can earn a dollar for himself.

The family physician meets a great many of the requirements that I have stipulated and some of them meet all those requirements. His fees are pitifully inadequate for the character of service that he is rendering. His course of training has been, in many instances, the same as the surgeon's, or eye or nose and throat specialist's. Yet the family physician gets two or three dollars for a call



to see a child for whom he advises tonsillectomy and the specialist gets thirty-five dollars for work which requires no more time than that required for the call by the family physician. Again the family physician sees a patient with appendicitis from whom he gets a fee of two or three dollars and the surgeon gets one hundred or more. The family physician is called upon to diagnose and treat, or refer every known ailment and to meet all manner of emergencies.

These conditions call for a much wider range of medical reading and study than is necessary for the surgeon or other specialist. For the family physician to be able to read and study and to enjoy some recreation he must have fees adequate to support him on a ten hours a day basis.

I know a physician whose office adjoins that of a dentist and the dentist can get on an average two dollars for each one dollar gotten by the physician in a given number of hours. Yet the training of the physician cost about twice that of the dentist.

The family physician does not collect more than about seventy-five per cent of his earnings. The other one-fourth would go a long way toward meeting the injustice of his inadequate fees. It seems to me that with all of the agitation for public health work and the amount of public funds that is being expended for this purpose; that some system could be devised whereby public funds would guarantee the fees of the family physician.

DR. T. HUTSON MARTIN, Charleston, S. C.

Business and professional men and women, physicians especially perhaps, often know their weak points or can find them out if they choose by a psycho-self-analysis. In thinking about the problem, the three factors which appeal to me as of most importance as affecting his usefulness are: first, the necessity for "brushing up" from time to time on medicine. It would be of great help to a busy doctor if he would try to arrange his work so he could take advantage of the free post-graduate courses open to us all nowadays.

The second factor: making a special effort to keep appointments on time. In these rushing days the family physician will many times find that he has been superseded in

This is a question that will have eventually to be met or the small towns and rural sections will soon be without medical service.

When a citizen goes to a store to open an account the merchant makes an investigation to ascertain the moral and financial condition of the would-be customer. When this same citizen goes for a physician the physician is expected to respond immediately and would be censured by the community if he did not, yet the community feels no urge to guarantee that the physician be paid.

The family physician cannot escape the duty he owes to his community and it is high time the community consider the duty it owes to its physicians. The rural sections and villages are gradually being left without physicians and in a few years will have none unless the community at large be made to see the duty it owes to its physicians. The interests of the family physician of the future and that of the community at large will be mutual, more so than in the past. Their efforts should be mutual.

Another remedy for the family physician is a higher scale of fees for the family physician and a scaling down of fees by the surgeon and specialist.

The family physician of today faces a career of usefulness never attained by his predecessors, provided that he has properly equipped himself to be the guide and counsellor of his clientele in sickness and in health.

the affections of some families whom he has attended for years and counted among his best friends, by another physician because he makes it a point to keep all appointments promptly. The one who does keep his appointments never fails to win that patient for a friend and others through him. Even people of leisure are today running their lives on a schedule, and months of service and years of waiting to be paid for them, do not offset the fact that some other physician is always in his office on time and will give them immediate attention. Learning, skill and faithful service do not count if weighed on the scales with justifiable impatience. Many a physician has gained a life long friend and admirer by having taken the

trouble to telephone the patient when he knew he would be detained. The patient feels that his doctor is interested in him and considers him of enough importance to send a message to him.

The third factor in increasing a physician's usefulness is three-fold; *a.* the impression a physician should strive to make on his patient in order to gain his confidence and establish the belief that the doctor will do all possible to help him. This impression is more easily made by the physician paying more attention than he has in the past to his waiting room and its furnishings. Cretonne hangings and coverings for the chairs are inexpensive and yet attractive; if the room has a northern exposure a reading lamp on the table helps dispel the gloom of a dark day; cheerful pictures on the walls and reading matter of recent date on the table. Many people form their first impression of a physician as expressed in the surroundings and equipment of the waiting room. *b.* Then, too, our profession calls for special personal care. Our clothes should be clean and well pressed and our linen immaculate. Sick people like to look at pleasant and agreeable things. So much for the office, now as to house calls. A patient's impression of the doctor is often influenced by some member of the family whom he meets before he sees the patient. a good looking bag and enters the home in a good looking bag and enters the home in a confident manner, one-half the battle is fought in some cases. A doleful looking person leaves a bad impression on the well and is bound to have a psychological effect on a patient before he has even spoken to the sick one.

*c.* A physician should pay more attention to the trivial aches and pains of patients. The quacks and charlatans reap their biggest harvest from the men and women who have gone to their physicians with some minor complaint and have been told to go away and forget it or have not been listened to at all. There are always plenty of people who will recommend this quack or that as a cure-all for the real and imaginary ills which beset the human race. If the physician really wants to keep the patient as his friend he will listen to what the patient has to say no matter how bored he may be and endeavor to find some solution of the problem. People

are always grateful to the man who takes the time to help them in what is to them a serious situation, although it may be entirely in the mind.

Now as to increasing the physician's income: the older men in the profession have listened for years to "sob" stories and ought to be fed up on them. These patients come to us with plaintive tales of no funds with which to meet their bills for medical services and because of our large hearts we either cancel the obligation or reduce the amount materially. Some of these same patients may be seen riding in expensive cars, wearing costly clothes and enjoying good health again due to the unremitting and anxious care given them by some member of our profession. The younger physicians are beginning the practice of our profession in a better way by frankly discussing with the patient or his family the financial side and thus placing their relationship with their patients on the right plane; i. e., the physician to render service to restore if possible the sick to health and the patient making suitable arrangements to pay for such services as soon as possible. Physicians have always made the mistake of discounting their services and every doctor knows that as time goes on some patients forget their obligations and before long have reached the point where they consider the doctor has been paid a compliment by being called in attendance. Ministering to the sick and suffering is a very wearing proposition—as we all know—a constant mental and physical strain and when a physician has the consciousness that his patients are his friends and are anxious to repay him in the only way open to them, he naturally feels that his effort and sacrifice are appreciated.

One solution for long unpaid accounts is a monthly statement followed by notes in which attention is called to the obligation and suggesting ways in which this obligation may be met. Collectors (at least in my experience) have not been a success. The general run of patients do not mind a personal note from their physician and as a rule try to live up to any arrangement proposed. By sending out regular monthly statements, acknowledging all remittances no matter how small with a note of thanks, one's income soon approaches the amount it should for

services rendered.

In time the physician who takes the trouble to refresh his mind and methods; arrange his time so that his patients may be sure of finding him in his office for his hours; makes his waiting room as attractive as he can afford; does not dismiss with a laugh some tale of fancied sickness; and then, if not paid in

cash upon dismissing the patient, promptly sends a bill for the services rendered and insists on the patient realizing that it must receive the same considerate attention as the grocer's or department store's, stands the best chance in the strenuous life we live of measuring his worth, reaping the benefits to which he is justly entitled, and leaving his children better equipped in every way than he was.

DR. JOHN B. CRANMER, Wilmington, N. C.

Now that there are so many different kinds of specialists in medicine, it is easy to read between the lines an accompanying lack of the old-time confidence in the family doctor, on the part of the laity, and even in the ranks of the profession itself, I can see the same lack of confidence and loss of faith. This condition of affairs, I am sure, did not exist twenty years ago.

The life of a family doctor, by reason of circumstances, is somewhat as Mr. Stanley Baldwin once said of himself, "the prime minister's job is the loneliest in the world; the holder is in the position of the captain of a ship; he must stand on the bridge and possess his soul in patience."

Mr. Lloyd-George has given another viewpoint of the family doctor, when he compares his own position, as premier, to that of a man on a high mountain top, possessing a good view, but chilly. Granting that the life of a family doctor is in many respects a lonely one, we know that it does afford many quiet hours for retrospection, meditation, and serious thought, when we can get a good view of the world outside, not only in things medical, but social political and economic as well. Are we using these hours and our talents to the best interests of ourselves, our patients and the general public?

In my judgment, it is only a matter of time, when the general practitioner will come back into his own. The swan song is not being sung, nor, in so far as I can see, is there "handwriting on the wall." Moreover, I sense, at this time—"when all the world is new, and things are passing strange," a real challenge to us and through us to the world, in St. Paul's valedictory to Timothy—"back to the faith."

In the evolution of time, all things change, and we, as individuals, as members of society,

of states and of nations, must change with them, else we will become impotent and deteriorate into stagnation and decay.

I have given this matter very serious consideration, in all of its aspects, and the master-word of Sir William Osler is the first to occur to me—work—work unceasingly, untiringly and conscientiously—for work in its fullest sense, means never to shirk a duty day or night. The physician who does not love his work for the work's sake, should get out of medicine and seek an easy vocation.

Along with work comes study and this means keeping abreast of the times. Had we kept constantly before us the necessity for study, for keeping up with all worthwhile progress in medicine, we would probably not have with us today, so many chiropractors, faith healers, christian scientists, and other cults; nor would there be any need for the great army of specialists, who have in so many cases unnecessarily invaded the rightful field of the general practitioner. Just here, I should like to say that I have not, and I am sure none of us have, any criticism for the well-trained specialist; but from the poorly equipped man who is dubbed a specialist, without having the necessary qualifications. I am constrained to say in the solemn words of the Litany, "Good Lord, deliver us."

Every doctor should take at least two medical journals—and read them. In our case, in the two Carolinas and Virginia, I should suggest the *Journal of the American Medical Association* and *Southern Medicine and Surgery*. The reading of medical journals gives us our best opportunity for knowing what is going on in the world of medicine, and affords us a safe vehicle for the exchange of ideas, for it is a splendid plan for every doctor to reduce his thoughts to writing from

time to time, and send them to his journal for publication. In so far as is possible, we should add to our libraries at regular intervals such books as will help us most in the study of our cases. In this connection let me suggest that part of our study be devoted to reviewing, systematically, our carefully kept case records, in order that light may be brought to bear upon difficult cases, by the review of one that has already been successfully handled.

Periodic health examinations should be encouraged by every doctor, among his clientele—we should interest ourselves in all plans and phases of Public Health work.

We should know the medical organization of our state, and be familiar with the doings of the American Medical Association. We must work for the establishment of Class A community hospitals, according to the plans of the Duke Foundation. And, still we are not doing enough unless we interest ourselves actively in our schools, our church and our state in their efforts for the elevation of our citizenship.

I have still one more suggestion. The work and study which I have outlined will be all the better done, if there be mixed with it some play. In a great measure, this part of our professional life will have to be worked out by the individual doctor. It must take form in a different way with every man, and we can always remember in planning, that "rest is not a cessation but a change of occupation." I wish to put in here a plea for regular attendance upon the county, district and state medical society meetings. It is also an excellent plan to visit the large clinics, whenever practicable.

It is a matter of history that a man creates for himself his own place in life, and this is my point: that a physician can, and should, by virtue of faithful unceasing attention to work, by constant study and with proper equipment so entrench himself in the hearts of his patients that his will always be the first advice to be asked, and his the recognized right to be the one to say when other help than his own should be sought. It is

best for the laity to choose wisely and well their family doctor, so that they may safely be guided by him in things medical, for it is an indisputable fact that the man who has oftentimes followed his patient through Shakespeare's seven ages of man is the one best fitted to make a definite diagnosis for him and to give him counsel and impartial and unselfish advice.

There are some indispensable attributes to the success and welfare of a physician and if he is not already so endowed by nature, and aided by training, it behooves him to make a gallant effort to attain them. There should be a readiness to meet emergencies with poise and self-control; there must be gentleness coupled with strength; a willingness to serve when there seems to be no prospect of material reward, and courage to meet results unashamed and unafraid.

Medicine has never been and never will be *per se* a lucrative profession. If we attain to the ideals which I have endeavored to present in this paper, and if we observe sound business principles in the conduct of our profession, we will have no occasion to worry over the financial side.

The laborer is certainly worthy of his hire but better than riches as a monument, is to be able to have it written at the end of life's journey that he loved his fellow man and served him well.

In length of service, we, as family doctors are the ancients of the earth; let it be a source of inspiration to us in our daily work that we are in the morning of the times as well. I am convinced that were I again at the beginning of my career, I would still choose the path of the family doctor which has taken me into the lives and hearts of my patients, sharing their anxieties and sorrows, and in so far as I was able giving them relief from physical pain, feeling that as the years pass, my reward will be to say to them and to my colleagues in medicine:

"Grow old along with me,

The best is yet to be,  
The last of life for which the first was made."



DR. W. H. HARRELL, Creswell, N. C.

It cannot be assumed, as, is generally supposed, that as the doctor's usefulness increases his income increases also. The two are interlinked but their ratio is not definite. In a great many instances the family doctor has a host of personal friends to whom he feels a certain amount of indebtedness. If he allows this feeling to assume too great a proportion, in that he feels obligated to make reductions, or no charge at all, then he may be ever so useful but his income increases not at all.

We all, of course, appreciate our friends, but we must keep friendship in its proper sphere. A father's advice to a son whom he was allowing to go out in the world to shift for himself was, "Son, make your money off your friends, for you cannot make any from your enemies."

This is mentioned at the outset only to show that income and usefulness are not synonyms in the medical profession.

In speaking of the family doctor I take him to be the same, whether it be city or country in which he lives and works. There are a few left in the larger cities but so few that one usually associates the word family doctor with a small town or country practitioner. This is a sad state of affairs. The trend for the past decade has been so greatly toward specialization that a well prepared, well equipped doctor almost feels ashamed of himself is he isn't a specialist. But the ship is beginning to right itself and the family doctor is coming back to his own again. The family physician as of old, honored, respected, loved; not only for his professional ability but also for his friendship, his integrity, his advice, counsel and guidance in almost every way. How many homes have been saved and lives made happy by the timely advice and warning of the family doctor!

The loss of respect and confidence of a degree which has usually characterized the feeling toward the medical man is due, I think, to too much modernism. This is a recent development and a regrettable one. Although a member of the younger generation myself, I was shocked a few years ago when first starting into practice, upon meeting and talking to some of my older brothers

to hear them even in their general conversations, to be profane and in many instances even obscene in their talk. They seemed to think that they couldn't be modern unless their talk was snappy and full of risque remarks. That was quite a let down from my ideals of the individual members of the profession. The remedy lies in better individual selection of entrants by medical schools and state license boards; and also in each member doing his share toward improvement personally.

Now to come to the more practical part. I would begin with what I think is the most important phase of the whole thing, and that which should tax us all; which is, Education of the Public in Matters Pertaining to Public Health. This is no easy matter. The success lies in the advancement of general education and the inherent intelligence of the community in which we live and work.

To advance this end the members of the profession should welcome the opportunity to make talks on public health when the occasion affords. Of course the subject would vary with the occasion but we could frequently deal with the general scope of medicine, its purpose and achievements. The recent advances in the field of medicine should always be made known so that they may benefit not only the practitioner but the patient. Of course we can do that only when we have kept abreast of the time ourselves.

To do this we must read the general medical journals, also the special journals in the certain branches and the journals published in the section of the country in which we practice; for they contain the material most important to our individual practices.

The vigorous condemnation of quackery should claim our attention, but this can be successfully done only through education and frankness with the people with whom we deal. To make the public see that quacks live only for themselves and not for their subjects can be done only by showing the public that straightforward physicians live and work not only for themselves but for the good of the people whom they serve and among whom they live. Once you have the people's confidence the rest is easy.

To obtain and hold the confidence of the

public, we must be frank with our patients insofar as frankness means going into detail into the patient's condition, the explanation of his symptoms, the cause of the disease, its probable course and termination, also the treatment and adjuncts. Never be afraid to say that you do not know everything about that certain condition. Overconfidence and exaggerated claims of ability have ruined some physicians. People appreciate our frankness as well as our ability. We should never think that we are wasting time when we stop to talk over his case with a patient. It pays in every way.

The second practical point in the increase of the doctor's usefulness and income is one which is new but which will assume greater proportions as time goes on and that is—Ethical Advertising, taking for granted that there is such a term.

Blatant flaunting of our wares or merits, of course, cannot be considered. This is the age of advertising and the public falls hard for it. Cults and quacks reap a rich reward by this method. We do not want to get ours that way, and yet we can't stand idly by and watch others sweep us away. So we can, in a quiet, ethical, respectable way, let the public know that we are on the job for their best interests all the time.

The advocacy of preventive measures should be ethical and it is certainly beneficial to the community in which we live. Preventive medicine is rapidly becoming of greater and greater importance and will soon assume the major portion of a physician's duties. We should be ready at all times to administer vaccines and inoculations. We should keep supplies of this sort on hand and not let the people have to wait until the state furnishes the free service. Let the people know that we are ready to serve them in this manner. Tell friends and patients that we have typhoid, diphtheria, smallpox and other vaccines which can be obtained at any time from us. We should make a charge for this service which is reasonable to ourselves as well as the patient. The tendency has been to charge too little for this service. Vaccinations and preventive measures are assuming a role so great that, unless we get a satisfactory fee for such our income is sure to suffer, for are we not in such a manner depriving ourselves of fees that would surely

be ours for the treatments of diseases like typhoid, diphtheria and the like?

Another thing which would surely make the doctor more useful and also increase his income would be the advocacy of periodic health examinations. Teach and educate the people to see its value. Tell of the many things that if found early can be much more easily corrected and perhaps lives be saved thereby. We should disseminate the ounce of prevention idea.

Another popular way in which many physicians advertise ethically is by association with clinics which give free treatment. Of late the free clinic idea has been carried too far in its freedom of management and selection of patients for admission. I have seen many times in free clinics patients whom I knew were perfectly able to pay reasonable fees. When a doctor sees a woman drive up to the clinic in an automobile and come in wearing a fur coat probably more expensive than the one his wife wears, he is certain to think that free clinics are preyed upon by the unscrupulous and should be more carefully guarded. But a physician can align himself with worthy clinics for the treatment of the poor and gain a big place in most people's hearts. And, what is more important, he is learning more and making himself a better doctor all the time. In the country the doctor can't always do this, but he can do what is almost the same by treating those who are worthy, in bad financially, or those who are devoid of support, absolutely free.

In advertising ourselves we should remember the motto of reputable business houses which is a very great truth—"a satisfied customer is the best advertisement, and the recollection of quality remains long after the price is forgotten." So it is with us. Satisfy our patients in that they shall know that they have had the best treatment possible under the circumstances. Then when they are satisfied, charge for it in proportion and they'll not forget the quality.

Other things in the conduct of the doctor's practice are of valuable note. To have the people's confidence and trust we must not only be good physicians but be good men as well. Any one who would hold the position of confidence and trust that a physician holds should be upright and honest in all his dealings, not only with his patients but with all

those with whom we come in contact—business, home and social life. Too many of us look on the hippocratic oath as an old joke. One thing which we may deny as much as we please but which is true nevertheless, is the matter of petty jealousies between physicians. This not only causes our patients to see that we are ordinary narrow-minded men but fails to set the example which we, as physicians and public men, should set. How can we expect better of those whom we teach?

General practitioners are the support of the specialists, and we need specialists, good ones; but the trend has been too greatly toward referring things to the specialists that we could do ourselves. We must certainly realize our limitations and not be foolish enough to attempt to do those things which would be unsafe for our patients as well as lead to our own downfall. And yet at the same time we should not be too anxious to refer those cases or things which we can do perfectly well ourselves to our more prosperous brother, the specialist. Among those things which a well equipped, well trained family doctor can do are: the smaller amputations, circumcisions, non-surgical gall bladder drainage, stomach, urine and blood analyses. We should be able to do these correctly and let the people know we can do them. This often saves the patient a large hospital bill as well as increasing the doctor's income considerably.

In all of our work we should put a proper valuation on our services. We shouldn't be afraid to charge not only in proportion to what we do, but also to the importance of what we do, relative to the patient's idea of its significance. If we charge too small a fee then the patient thinks, naturally, that we aren't quite as good a doctor or expert enough to do the particular thing in question as we should have been. The patient expects us to charge when we have done something out of the ordinary and we shouldn't belittle ourselves by not doing so.

Business-like methods for the business part of our practice should be the aim of every physician. Many doctors die poor for lack of this when it is entirely unnecessary. When we discharge a patient we should render a statement or at least at the first of each month unless other arrangements have been made. A few people will not like this at first, but only a few, and it will not be long

before they will expect and look for this business-like way of handling the business end of our work. There are many admirable systems on the market made especially for physicians. I cannot too strongly recommend that the family doctor have one of these. It will pay for itself many times over, besides the clinical advantages which are apparent. In addition the impression on the patient is advantageous.

Throughout our whole career we must be stable, dependable and available, be dignified without being aloof, kind and considerate but firm; always realizing our limitations but keeping in mind our capacities, courageous and upright, knowing that in the end there is always room at the top for those who work and wait.

If I were Kipling and had been writing for young doctors I would have said:

If you can keep your wits when all about you  
Are losing theirs and don't know what to do,  
If you will take the case when others doubt  
you

And never give up 'till you've found the clue;

If you can stand to see your own conclusions  
Torn into shreds, made points of ridicule,  
If you can hear your ideas called delusions  
And still keep on and know you're not a fool;

If you can avail yourself of all your knowledge,  
edge,

Ack quick, think quicker as you should,  
Remember all the stuff you heard in college  
And apply it to the use of human good;

If you can fill each fitful, flying minute  
With sacrifice and service as should be,  
Yours is a great big practice, all that's in it,  
And what is more, you'll be a good M.D.

#### RESUME

We realize that the family doctor is slipping slightly from the position which he once held. We also realize that no one thing, or single suggestion is going to remedy the existing state of affairs, but that it will take a comprehensive plan, carefully thought out and well followed, to regain that which we should have. We believe that the family doctor can best increase his usefulness and his income in the following manner:

1. A program of education of the public in matters pertaining to public health, aided by
  - (a) Public health talks whenever the occasion affords;
  - (b) Frankness in dealing with patients in that they know more when we have talked with them;
  - (c) Making known the recent advances in medicine and medical procedure, (and we can do this only by keeping abreast of the times ourselves.) This means reading the best national as well as local medical journals;
  - (d) Vigorous condemnation of quackery and cults, by helping the people to reasonably understand their fallacies and not just by hot-headed denunciations;
2. A program of ethical advertising, aided by
  - (a) Advocacy of preventive measures, as periodic health examinations, vaccinations, and other prophylactic

measures;

- (b) Association with clinics for free treatment of the poor;
  - (c) Quietly announcing to the people any new, worthwhile, ethical equipment, systems or procedures which are for their benefit as well as ours;
3. A conduct of practice on an improved basis, as follows:
    - (a) Improved conduct and morals on the part of the physicians themselves, in order to regain the position of confidence and trust once held;
    - (b) Avoid overworking the specialist by referring to him the things that we can do perfectly well ourselves;
    - (c) By putting a more proper valuation on our services and not being afraid to charge proportionately for them;
    - (d) Lastly, one of the most important of all things, which is, the use of business-like methods for the business part of our work.

DR. J. M. PAYNE, Hendersonville, N. C.

In those good old days, we hear so much about, before good roads and automobiles came along to hurry us up, the family doctor was a man of great importance. He occupied a very unusual place in his community. To his patients, he was not only doctor, but the family's good friend who in times of trouble or sorrow often stuck "closer than a brother." Not infrequently, he was counselor, financial adviser and a sort of "father confessor." If the time and attention that the doctors of the preceding generation gave their patients was excessive, the pendulum has certainly swung to its limit in the opposite direction with us. With all our time-saving devices the people of this generation are in the grandest rush that the world has ever known. The doctors are no exception to this rule. When the average doctor is called to see a patient now, he hurries in, rapidly examines the patient, asks a few questions, writes a prescription, picks up his hat and departs. Perhaps he has been there fifteen minutes. If he has a good memory, he may know his patient the next time he meets him on the street.

If the old doctors gave their patients too much time, we give ours too little. We would

probably do better if we would try the middle ground awhile. In other words, we should take time to know our patients and make friends out of them. A few minutes of bright, encouraging conversation with our patients frequently does them much more good than the drugs we prescribe. Very few doctors are as rushed as they appear to be, so take time to smile at the baby and ask grandmother about her rheumatism. I can hear you exclaim, "Now, you are getting politic. That isn't professional." However, that all depends on a fellow's point of view. Any man with the milk of human kindness in him just wants to smile at a baby and common courtesy should make him inquire about grandmother. If you don't want to take time to do these things, examine yourself. Your supply of "milk" must be drying up.

The finances of any doctor are helped by his friendly spirit. When competition is as keen as it is now, a doctor surely must show himself friendly in order to have any patients. These same patients will pay a bill much quicker to a doctor that they like than to one they dislike. Show real personal interest in your patients and you will make real



friends. Not every patient is likable but almost everybody has some good traits. Hunt for them—it's excellent training for you!

If I knew of anyway by which the family doctor could greatly increase his income, I would radio it to the ends of the earth, for I know from sad experience that the average family doctor is no millionaire. The only way I know to increase a doctor's income is to increase his good pay patients. If we give good, conscientious service, then we should demand pay for it just as any other business man does. As a general use we are entirely too lax about collecting our bills. If the average merchant had as many dead beats on his books as the verage doctor has on his, the mercantile business in this country would be

a total loss.

I firmly believe that each county medical society should form a credit association just like the merchants do. If a man refuses to pay his debts, he gets no credit till he does. This would eliminate the dead beats, who, as soon as they have built up a big bill with one doctor, move on to the nevt one. We could very soon work out a list showing which people need charity and which are simply no good. My advice, first, last and all the time, is—cultivate a friendly spirit. The family doctor usually treads no primrose path but the knowledge that he has some staunch friends, who will give him a kindly boost whenever they can, makes the upward climb much easier for him.



## PRESIDENT'S PAGE

Good listening is a high art and one rarely exercised. I count it a positive virtue, but whether it be an acquisition or a gift from the gods I scarcely know. But it is a splendid trait. As a means of acquiring information it is perhaps more useful than vision. Out of the information acquired through the sense of hearing much knowledge can be sifted. A physician, if he would succeed in the practice of his art, must know how to listen well. That implies keen sympathy with his narrator. Good listening carries with it the necessity for the display of interest; interest makes necessary keen attention, and attention to one's patient is highly pleasing to him. Attention involves two factors: fixing the mind upon what is being poured into it through the medium of the ears; and excluding from it all other things. The ailing person must be heard patiently, earnestly, sympathetically, unhurriedly, intelligently, and kindly. Such a hearing is the first step in the way of an examination. By no other method can a satisfactory history be obtained, and without such a history diagnosis is difficult.

Much useless information must be poured into the ears of the doctor, and from it the useful and necessary facts about the condition must be sorted out. But all that the patient has to say is to be looked upon as a part of the portrayal of the patient's personality, and without facts about the personality the study is incomplete. Intelligent listening, like Christian charity, is rare indeed. Good listening requires sustained attention, and the focus upon the patient of all the resources of the doctor is pleasing to the patient. And good listening has therapeutic value as well as diagnostic helpfulness. We can seldom give more appreciated attention to our fellow-creature than by drinking in eagerly what he has to say. A doctor can have no more commendable quality than that implied in knowing how to lend his ears graciously. It fetches folks to him and binds them as his clients.

This high art of listening may be decaying. There are many reasons to make it difficult of practice in these modern times. Lack of adequate time is a factor. The patient may be garrulous and may revel in detail and circumstantiality. The multitudinous noises of the day are distracting. Inability to find isolation and consequent freedom from the fear of interruption is disturbing. And most of us medical men find in ourselves the unfortunate tendency to project a diagnosis out of our minds into the patient rather than to interpret a diagnosis out of the condition. Such projection is easy, but interpretation is difficult. But the patient listener draws suffering mortals to him and his sympathy holds them. Unless the doctor be willing to hear the patient's story he can acquire no comprehensive understanding of the situation, and without such understanding the doctor can render only limited helpfulness. The doctor who listens in sympathy inspires confidence and out of confidence comes cooperation.

Charles Lamb once confessed that he had no ears at all—for music. Not infrequently I see at medical meetings doctors who have no ears—for the papers and the discussions. They carry away from a medical meeting only what they take to it. Several years ago at the annual meeting of a national medical society I met a doctor coming from the hotel in which the meetings were held. I asked if he were not going in to hear the address of the President, and he replied that he had not heard a medical paper read in fourteen years. He had not grown professionally or otherwise since the day of his graduation and he practiced medicine as it was practiced a generation ago. And I thought of that other doctor whose slightly impaired hearing makes it necessary for him to sit on a front seat at a medical meeting. There he once heard a young doctor read a paper on congenital pyloric stenosis in infants. He comprehended so thoroughly the presentation that he carried it all back home with him. A few days afterwards when a doctor in a neighboring







state called him to ask if he knew anything about such a condition he was able truthfully to tell the enquirer that he knew all about it. And in consequence of his good listening, though his hearing is impaired, the little patient was sent to him, he relieved the condition by operation, and time and time again since that day he has operated for the relief of pyloric stenosis in infants. He learned because he listened. When a medical meeting is in session I never see him just outside the

door of the auditorium, but he occupies always a seat in the front row. Do you marvel that he has grown every day of his professional life? What a pity it is that so many doctors upon leaving home for a medical meeting detach their ears and leave them behind!

*Jas. H. Hall*

#### RESOLUTION

Weldon, N. C.,

March 22, 1928.

THE HALIFAX - NORTHAMPTON COUNTY SOCIETY, in regular session March 22, 1928, assembled, hereby resolved:

That whereas, the members of the medical profession are rendering through the practice of their profession a vitally necessary service to humanity, with the paramount thought of rendering a distinct service and aid and not that of pecuniary reward, yet realizing that adequate compensation for their professional services is essential for them as is an adequate compensation essential for the service of other citizens of the various professions and occupations:

However, as the medical practitioner heeds the call of suffering mankind, looking towards the relief of distress and suffering first and to his compensation last, it is readily seen that a great amount of his service goes to those who have not an abundance of material goods and who are unable to pay even the smallest of fees, which, in its final analysis, is a gift by the medical practitioner to his fellowman, his country and his state, for by giving relief to those in sickness and pain, who are unable to pay for such relief, the county and state are saved a great expense.

So great, however, has become the demand upon the medical practitioner for his professional service for the aid of the indigent sick that his services, for which he is uncompensated financially, forms a large percentage of

the annual amount of work that he does. This expense is further enlarged by necessary supplies and other expenses that he is called upon for in answering such calls.

Therefore, in consideration of the aforementioned service and large expense that the medical practitioner has in connection with such service, which is a financial loss to the medical practitioner and a saving for the county and state: it is hereby resolved that the Halifax-Northampton County Medical Society go on record as favoring and requesting the State of North Carolina to abolish the state tax on all medical practitioners and by so doing aid to relieve them from the excessive financial burden that they now have.

Be it further resolved that a copy of this resolution be spread upon the minutes of this meeting and that a copy of such be sent to the following named persons: The Governor of North Carolina, the Speaker of the House of Representatives, the President of the Senate of North Carolina, the President of the North Carolina Medical Society, to be presented to the House of Delegates at the next annual meeting, to each member of State Medical Legislation Committee, to the Secretary of each medical society in each county, to the editor of *Southern Medicine and Surgery*, and to the Associated Press.

HALIFAX-NORTHAMPTON COUNTY  
MEDICAL SOCIETY.

Dr. W. G. Suiter, *President*.

Dr. Z. P. Mitchell, *Secretary*.



# SOUTHERN MEDICINE AND SURGERY

*Editor*

JAMES M. NORTINGTON

## Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	<i>Human Behavior</i>
FRANK HOWARD RICHARDSON, M.D.	Black Mountain, N. C.	<i>Pediatrics</i>
W. M. ROBEY, D.D.S.	Charlotte, N. C.	<i>Dentistry</i>
J. P. MATHESON, M.D.	Charlotte, N. C.	<i>Diseases of the Eye, Ear, Nose and Throat</i>
H. L. SLOAN, M.D.		
C. N. PEELER, M.D.		
F. E. MOTLEY, M.D.		
D. L. MILLER, M.D.	Gastonia, N. C.	<i>Orthopedic Surgery</i>
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	<i>Urology</i>
JOHN D. MACRAE, M.D.	Asheville, N. C.	<i>Radiology</i>
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	<i>Dermatology</i>
PAUL H. RINGER, M.D.	Asheville, N. C.	<i>Internal Medicine</i>
GEO. H. BUNCH, M.D.	Columbia, S. C.	<i>Surgery</i>
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	<i>Periodic Examinations</i>
HENRY J. LANGSTON, M.D.	Danville, Va.	<i>Obstetrics</i>
CHAS. R. ROBINS, M.D.	Richmond, Va.	<i>Gynecology</i>
JOHN B. CHAMBERLAIN, M.D.	Charleston, S. C.	<i>Neurology</i>
LOUIS L. WILLIAMS, M.D.	Richmond, Va.	<i>Public Health</i>

## OUR PRESIDENT'S ADDRESS

President Robert Wilson's address at Virginia Beach goes well into the history of the Tri-State Association and of medical achievement since the birth of this association; it takes stock of the present situation as to the association and the medical world in general; and it points out means which lie ready at hand by the use of which the association can further enlarge its usefulness and its prestige. With the statement "should he [the family doctor] pass from the course something will be lost but more will be gained," we are not in agreement. Our conviction is that the family doctor's sphere should be enlarged rather than contracted; that no possible dealing with sick folks piecemeal, however wise the specialists, can be as satisfying as the ministrations of a reasonably well-equipped, understanding family doctor. Man is more than the sum of his parts.

The recommendations as to clinics, carried into effect, will undoubtedly add to the popularity of the Tri-State. Especially does the idea of a clinico-pathological conference appeal. The finest teaching of medicine is that from a clinical record signed and sealed before the pathologist's knife is brought into play; this to be read to the assemblage, this

followed by the pathologist's report with gross and microscopic demonstration, all concluded with pertinent discussion.

The next recommendation—that there be held sessions of a suitable character open to the general public—meets with the approbation of nearly every one who has thought on the subject. Mankind is tremendously interested in "those we love best, our noble selves." Witness the attendance on any kind of lecture advertised to be delivered by even the most preposterous faker, when the statement is made that matters of health will be discussed. And we must not wonder that nonsense is accepted as sense, for accurate information is by no means generally diffused, and discriminating judgment is the rarest of the faculties. By all means let us have more instruction given directly to the public by reputable, specially qualified doctors, concerned for the general good.

A man of Dr. Wilson's scholarship, leadership and honesty could be counted on to give us a message of solid worth. He has amply justified our expectations. His recommendations are wise. We shall count on him to take an active part in carrying them into effect.

## MANAGEMENT OF THE PATIENT WHO HAS PNEUMONIA

At the recent meeting of the Tri-State Medical Association of the Carolinas and Virginia Dr. Joseph L. Miller delivered an address on "The Treatment of Pneumonia"; in the issue for last December of *International Clinics* Dr. Harlow Brooks discussed "The Treatment of the Patient with Pneumonia"; in the *Archives of Internal Medicine* for March Dr. Russell L. Cecil has an article on "The Specific Treatment of Lobar Pneumonia." From these three we are confident that doctors may learn all that is known and worth knowing for the care of our patients who come down with this disease.

The lack of uniformity in the first two titles represents a distinction without a difference, these two eminent clinicians sharing the opinion that the main point is sustaining the patient, rather than attacking the disease.

Dr. Miller's address is carried in this issue. In it may be found the conclusions, to date, of a doctor possessed of a mind trained in weighing evidence, and who has had very exceptional opportunities for following through an enormous number of cases of pneumonia. There may be found, too, sage counsel on the most successful means of dealing with the various distressing symptoms, for Dr. Miller is not among those who sneer at "symptomatic treatment." Like all other sensible medical men, he thinks first of ascertaining and removing the cause of a disease; but he never loses sight of the fact that the relief of physical suffering is worthy of the earnest attention of the best minds, or that the kindly interest and comforting words of a doctor make up much of his duty, his usefulness, and his happiness.

Conspicuous among the valuable features of Dr. Brooks' article are his earnest counsel that the patient be kept in full therapeutic view, but left under his blankets so long as he presents no evidently warning symptoms. Many of us have seen patients with pneumonia literally examined to death by oversolicitous medical attendants. "Certainly," says Dr. Brooks, "the patient of today has a much more happy lot in this respect than in the days when I was a student." He warns against assuming that the appearance of

abundant urinary albumin and casts means that the kidneys are seriously compromised. Neither Dr. Miller nor Dr. Brooks sets any great store by specific methods of treatment.

Turning to the third essay, which deals solely with specific treatment, Dr. Cecil summarizes an exhaustive discussion with:

"From the evidence submitted, it is clear that anti-pneumococcus serum and its derivatives, when administered under the proper conditions, are capable of exerting a definite influence on the course of pneumococcus type I and type II pneumonia. A specific therapy for these two types of pneumonia is, therefore, theoretically sound. The practical application of the specific treatment of pneumonia is still handicapped, however, by certain defects in the serum itself or in the derivatives from it. Whatever the serum or serum derivative used, the necessity of early and adequate treatment cannot be too strongly emphasized. In our experimental work on pneumococcus pneumonia, the value of large doses of serum has always been strongly impressed on us.

With numerous investigators now studying pneumococcus infections, there is every reason to believe that each succeeding year will shed further light on the problem. During the past decade much progress has been made, but much more still remains to be done before a thoroughly satisfactory specific treatment is achieved."

When the foregoing is all that can be said for this method of treatment of this common disease, and clinicians of such ability and experience as the two quoted earlier can not see even this degree of advantage, we may rest assured that we are best serving our patients who have pneumonia by paying no attention to typing or serums, but devoting our thought to the best measures for relief of their air-hunger, pains and apprehensions.

### FOR FEWER SECTIONS

In the issue for June, 1926, this journal expressed the opinion that the Medical Society of the State of North Carolina was divided into too many sections, and advocated a reduction. So far as we knew till a very few weeks ago this suggestion fell by the wayside. It now turns out, though, that there is a decided sentiment for this

very thing, so we are encouraged to seek out the little starveling plant to "dig about it and dung about it" in the renewed hope that it will bear fruit.

Medical men have gone through the period in which the tendency was toward narrower and narrower specialization, to the point where it has become plain that all who treat sick folks must have a lively interest in ills of all parts and all kinds.

Were it possible to conclude a program of reasonable length in a reasonable number of days by meeting in one body, this journal would earnestly advocate meeting in one body; that being impossible it urges the lopping off of all non-essentials, and combining the essentials in groups most favorable for meeting the needs, first of the family physician, and then of the rest of us.

At the Durham meeting the Section on Veterans of the World War was referred to as the baby of the Society. So it is, and many of us would feel no sorrow had it died a-borning. A distinguished ex-president of the State Society said to us, "We who were not in the army could hardly advocate abolishing this section." True; but our heavy wager is that ninety per cent of us who wore the uniform all through are actively in favor of doing away with this section which never had an excuse for being.

Public Health and Education is very necessary; no one would diminish it; but with the great increase in activities of the State, County and City Boards of Health, and of lay organizations actively engaged in this field, to say nothing of the conjoint session with the State Board of Health and contemporaneous meeting of the North Carolina Public Health Association, the need for a Section on Public Health and Education does not appear to be a pressing one; rather it appears plain that we can use our limited time to better advantage in other sections.

The subjects listed under the other heads must be covered, but we are confident that a wise re-arrangement would serve the society well.

In his daily work the man who practices medicine also practices obstetrics, pediatrics and therapeutics, and has to know about chemistry and materia medica in each case; why artificially section what is naturally a whole? Generally speaking the surgeons of

North Carolina are also the gynecologists: why the paper distinction?

The eye, ear, nose and throat men probably have the strictest specialty and need a separate section; but we know that family doctors need to learn from them and they from family doctors.

We are for fewer sections. We believe it would mightily increase the value of the society to allow the first two sections mentioned to pass to their rest; combine medicine, obstetrics, pediatrics and chemistry, materia medica and therapeutics, combine surgery and gynecology; and leave eye, ear, nose and throat as it is, or with the possible addition of head surgery.

With only three sections to consider there would be little serious overlapping, every doctor could wisely choose in dividing his time, and seldom would he go away feeling dissatisfied from not having had an opportunity to get what he came for; we would see each other more intimately and so new members would much more rapidly come to regard themselves as part and parcel of the society; and those assigned places on the programs, knowing they would have many attentive and critical hearers, would be more encouraged to put forth their best efforts to provide something of value than is possible for two or three however faithful; and, most important of all, doctors in every field would be made more competent to relieve their patients of their ills.

---

#### FOR ABOLISHING THE \$25 TAX ON DOCTORS

The active, efficient Iredell-Alexander County Medical Society has taken the leadership in the movement to do away with the tax levied by the state on each doctor who wishes to practice medicine within its borders. The Halifax-Northampton Society's action is the latest to come to our attention. This action takes the form of a spirited resolution which clearly sets forth our case, and provides adequately for the resolution reaching the lawmakers. Let us back up the movement strongly.

Were it practicable to compel the rest of the community to share equally with the doctor the burden of caring for the sick who do not pay, doctors would willingly pay the tax, and be thereby hundreds of dollars annually, on the average, net gainers. Unfor-



tunately it is not now practicable to compel this sharing of the burden. Barber, news-dealer and filling station operator share with the doctor in paying for the privilege of plying their vocations; but they do not share with him the burden of ministering to the needs of the man who falls in the street in front of their places—nor can the doctor obtain their services or wares on the same terms he treats the indigent.

The free services rendered by the average doctor in North Carolina save his county or city not less than \$1,000 each year; for if doctors refused to attend the sick who can not pay, county or city would be obliged to pay some one for such attention. It is rank injustice for the state to so far ignore this great service as to assess doctors for the privilege of rendering it.

There is, however, a very evident explanation. Reckless expenditures make law-makers look everywhere for possible revenues; and one of the most experienced of politicians has laid it down as a maxim that that system of taxation is best which "gets the most feathers with the least squawking." It is a good practice to squawk every time we are imposed on, and just now it is up to each one of us to see his own legislators, state that we regard this tax as unjust, explain why we so regard it, and let it be known that we are determined to be freed from its burden.

#### A NOTE ON THE INTRODUCTION OF DIPHTHERIA ANTITOXIN

In 1894 that great editor and great man, J. P. Caldwell, wrote in the *Charlotte Observer*:

"The dispatches state that a seven-year-old girl in Chicago has been cured of laryngeal diphtheria by the new agent, anti-toxin, after three physicians had given her up. It was the first case in that city in which the new remedy had been tried. There have been so many false alarms in the medical world of late years over elixirs of life, consumption cures, and one thing and another, that the public is naturally skeptical when new remedies are brought out with a blare of trumpets, but the testimony thus far is all in favor of this new diphtheria cure, and there does really appear to be something in it. There is not a

father nor a mother of young children but will sincerely hope so, anyhow, for diphtheria is the horror of them all. Cholera infantum does not carry the same dread of consequences with it, and there is nothing, excepting Bright's disease, in the presence of which the average physician seems to stand so helpless. He who finds a specific for it confers an inestimable boon upon the race."

The foregoing is a fine illustration of the attitude toward unproved claims of a highly intelligent editor, who could anticipate the effect his words would have and the dire consequences of misleading the public, and who refused to endorse any claim of importance for a curative measure until the strongest evidence was adduced. We commend this illustrious example to all lay editors and urge that, before giving publicity to extravagant claims, they at least give the local health officer or other member of the medical profession an opportunity to present what information he may have on the subject under consideration.

However, Mr. Caldwell's very comprehension of the importance of the new agent—which has since been abundantly demonstrated—led him somewhat astray as to the universality of its acceptance; and in this there is but another illustration of "the triumph of hope over experience."

His knowledge of the fact that, although Jenner had published it to the world in 1796 that inoculation with cowpox virus would effectually and harmlessly prevent smallpox, as late as 1852 or 3 Col. Wm. Myers wrote his wife that "the village [of Charlotte] is well-nigh depopulated" by smallpox, should have prevented his thinking all fathers and mothers would be interested. The wish was parent to the thought.

But, because we can not convince all the people of plain facts which are of the greatest importance to their physical and mental well-being, that is no reason for being discouraged; it should serve only to make us strive without ceasing to get reliable information on health matters to every person, as often as possible and under various forms—and so reduce to the minimum the number who refuse to be saved.

### A PIECE ABOUT DOCTORS

One of the traits of humankind which affords ground for hope for the race is the characteristic of dissatisfaction with good things until they are shared with others; and among the greatest satisfactions are a few friends of such congenial spirits that we can know each will be delighted with rare bits passed on, and so all be satisfied.

A dozen or so years ago we came across a wonderful volume of essays, just then republished under the title "My Unknown Chum," the authorship of which was unknown. Immediately it came to mind that Dr. Cyrus Thompson would delight in it, that he would taste its savory sentences bit by bit, with all that ecstasy which spreads itself over the countenance of a French gentleman when he sips the best of his country's vintage and revels in its bouquet.

A few weeks ago there came from Jacksonville (not Jacksonville, Florida, but *the* Jacksonville) a book "To my friend." It is called "The Old Virginia Gentleman, and Other Sketches"; its author is George W. Bagby, who, though setting out to be a doctor, soon abandoned the pursuit of the profession of medicine for that of letters, wrote much for papers and magazines and spent many years as Assistant Secretary of State (Virginia) and Librarian of the State Library. Thomas Nelson Page says of him that, there, "among the masters, his soul found society of its own rank."

One of Dr. Bagby's essays is called, in his simple and winning way, "A Piece About Doctors," a part of which is being passed on to you. It will give pleasure to many; it will spur some to more determined effort; it will make a whole lot of us ashamed of ourselves:

"However ill-paid and often unpaid physicians may be, they have the consolation of knowing that eminence and success in almost every other calling and profession is a selfish success limited in its good effects to the man and his immediate family; whereas in medicine great success is based, necessarily, upon great and widespread beneficence. To even moderately distinguished medical men, indeed to all but the very meanest and most worthless doctors, there must come thrills of pleasure so supreme that only the minister of the

gospel who feels that he has been the instrument of saving a soul can hope to take a pleasure at all comparable with it.

"Faithful keepers of the great seal of family secrets, trusty wardens of the irrefragably precious health of our loved ones, silent and pitying witnesses of human suffering and human weakness, who shall rightly tell your worth, and with what patent of nobility shall ye be fitly honored? Statistics show that, man for man, your profession has fewer culprits than any other whatsoever. The simple figures, unfeeling and unflattering, bear testimony to the lofty virtue of your calling. It is the hope of humanity, and there is reason for the hope, that the day will come when there shall be no more great lawyers, for there shall be no more litigation; when there shall be no great warriors, because wars shall have ceased; and when even the need for great statemen shall have passed, since mankind will have outlived the infirmities that demand legislative correction or restraint. But that day can never come on this earth when men will not die. A healthy race, obedient to the laws of right living, will require a few doctors (doctors truly, that their chief functions will then be the teaching of sanitary principles, and the mode of life demanded for the highest physical development); but these few will be crowned with the laurels that once rested only upon the brow of the soldier, and with the bays that were reserved solely for the jurist and the statesman.

"The mind makes many pictures, and this is one that often delights me. In the realm where there will be no use for doctors, but where many doctors shall be, it shall come to pass that beside the river of living waters, and under the trees whose leaves are for the healing of the nations, each upon his little knoll of emerald sward, the good doctors of this world shall be seated. Celestial airs, borne from the trembling wires of harps attuned to praise the Great Physician, and mingled with the divine odors of amaranth and asphodel, shall pass by on the soft, pulsing breeze. And around each doctor shall be the host, small or great as the case may be, of them to whom he ministered on earth. They shall press forward with lips no longer dumb, with hands no longer afraid to tell by their clasp what even the lips might not like to say, and with eyes blazing full and warm

from the unmasked soul. And from lips and hands and eyes shall come measureless requital. And the little ones, the little ones whose first wail and whose last sigh the good doctors heard, they shall come with purest kisses and cherubic palms, with such sweet thanks and caressing as only the always-angels know."

WE have learned through trustworthy sources that a health officer in one of our populous cities outside of Indiana has been making considerable money by incorporating in his health talks, published in the daily and weekly papers, a recommendation of various merchandise that either directly or remotely pertains to health. In order to have no slip-up in the receipt of compensation he submits his health article containing the recommendations for some particular merchandise and collects the fee in advance from those who are to profit by the sale of the merchandise. No fee, no recommendation. It is said that one single health article published rather widely by the newspapers contained three distinct recommendations concerning different types of merchandise, and each recommendation netted the health officer one thousand dollars. Such a grafter should be kicked out of office, as he also should be kicked out of respectable medical societies. Whenever a physician's opinion can be shaped to fit a fee, it is time to place that physician in the list of persons who cannot be trusted for anything.—Editorial note in *Jour. Indiana State Medical Assn.*

UNFORTUNATELY the United States can not show a downward trend in maternal mortality. In fact, the records show a rise of 8 per cent in maternal mortality from all puerperal causes in the total registration area from 1915 to 1924. In urban areas there has been a rise of 14 per cent—from 6.4 to 7.3 per 1,000 live births. The rural areas show an

increase of 5 per cent. The only decrease shown in the maternal mortality from all puerperal causes is in the rate for white mothers in rural section, which has fallen from 5.5 to 5.1—a decrease of 7 per cent. In the total registration area the rise in the rate for whites is very slight—less than 2 per cent—but in urban areas alone the rise has been 11 per cent.

ERECT POISONING from eating rye bread has been reported lately in England. It is well to bear this in mind, when patients of races or nationalities using this bread present obscure symptoms.

ULTRAVIOLET RAYS may be exceedingly dangerous. They should be used only by a trained physician, and should not be in the hands of barbers, physical trainers and "beauty specialists." Moreover, these rays are of no value in at least 90 per cent of the conditions for which they are recommended.

BARBITAL (veronal) is a habit-forming drug, prone to bring about the various states of mind conducive to crime. As time goes on the "absolutely safe" substitutes for good old reliable, cheap chloral are shown to be more dangerous and less dependable, as well as far more expensive.

"I will go into the next severe epidemic of smallpox with ten selected vaccinated persons and ten unvaccinated persons. I should like to choose the latter—three members of parliament, three antivaccination doctors, if they could be found, and four antivaccination propagandists. And I will make the promise neither to jeer nor to ribe when they catch the disease, but to look after them as brothers, and for the four or five who are certain to die I will try to arrange the funerals with all the pomp and ceremony of an antivaccination demonstration.—*Sir William Osler.*



## DEPARTMENTS

### HUMAN BEHAVIOR

JAMES K. HALL, M.D., *Editor*  
Richmond

#### SYMBOLISM IN A GROCERY STORE

The man, 30-odd years of age, unmarried, was brought in a police wagon to the hospital from the city jail. From the officers I obtained the following account of the strange behavior which caused him to be taken into custody: At about three o'clock on a summer afternoon he boarded a street car bound for the up-town region. He had on no clothing. He was entirely naked. The car conductor was so overcome by the unusual situation that he did not react to it at all until the car had traveled a few blocks. Then the conductor pulled the bell cord, and the car was brought to a stop. But the nude passenger refused to leave the car. The motorman and the conductor were unable forcibly to remove him. Firemen came out from a nearby station and lent their efforts. After a considerable struggle with the clothless, perspiring, resisting passenger he was finally taken into the fire house. But he continued in his efforts to break away from them, and to insist that he be permitted to go on up into the movie district. His clothing was sent for, he was dressed, much against his will, but then his resistance ceased, and he made no further attempts to go on up town. For his own protection he was taken to the city lock-up. There he remained mute until he was brought out to the hospital.

At the time of admission he was wholly unresponsive, but not actually resistive. He could not be induced to talk. He ate, he slept; his countenance indicated no interest in his new surroundings, and he looked as if he were receiving no impressions of any kind. There were no evidences of intelligence in his face. A day or two after his admission I obtained from his younger brother the following information: In the eastern part of the city, on one of its principal streets, the brothers had a small grocery store. They

had rooms on the floor immediately above the store. Both of them were in good health. Their business was small, but moderately successful, and they had no reason for worry. For two or three days before the episode on the street car the older brother had not slept well. Once or twice late at night the younger man woke up to find his brother walking the floor of their room. He would laugh and simply say that he had got awake and could not get back to sleep. Just before the older brother boarded the street car, as related above, he peremptorily ordered his younger brother and the young lady book-keeper from the store. He told them both to get out quickly, that he wished to be alone in the store. They felt considerable apprehension, but his manner was so commanding that they obeyed him. Immediately afterwards the brother left alone in the store closed the window-shutters, and then the front and rear door, locking both doors. Then the younger brother, barred from the store, mounted a ladder against the rear door, and looked into the store through a glass transom above the door. He could see his brother in the store room taking off his clothing, folding it up carefully, and placing it under the counter. Then the naked man unlocked the front door, walked across the street, and waited on the corner for an untown car. The strange behavior, witnessed by the younger brother, was not preceded by any evidences of mental unsoundness. The older man had been waiting on customers and behaving in his usual manner. He was pleasant and agreeable and apparently untroubled and not unhappy.

For several days after admission to the hospital the patient remained mute. His appearance and his behavior indicated profound loss of mentality. All efforts to attract his attention failed. He was quiet and no difficulty was encountered in caring for him. His minister visited him, and in the patient's room the minister told me that the young man was a pillar in his church, a godly man, of most exemplary character, free from all sorts of bad habits, and a pattern of virtue



and probity. The patient heard the encomium of his clergyman with a countenance unmoved. Whether the minister's observations called forth his approval or disapproval I could not tell. He spoke not a word nor did he bat an eye. And the minister sighed and spoke aloud his distress in witnessing the complete loss of a mind lately so sound. And then the minister told me in the presence of the patient, that the young merchant was engaged to the young lady who was the book-keeper in the store, and that she boarded and roomed in the minister's home. And reflection upon the blighted hopes distressed the preacher still more.

The minister went his way, the young man remained a sort of human automaton, speechless, apparently dazed, and without concern about his condition. I sat with him, I questioned him and talked to him, but he would make no replies. But after several days I induced the patient, in response to much questioning, to tell me his name. Later he gave his age, and then he told me where he lived and what his business was. Finally he talked more freely. He gave me eventually an account of his strange behavior. Early in the afternoon when he undressed and boarded the street car he began to hear voices speaking to him. One of the voices seemed to come down from above. The voice ordered him to take off his clothing and to be like he was when a new-born babe. But another voice coming up apparently from beneath the floor of the store told him not to make a fool of himself by such behavior but to keep his clothes on and all would be well. The voice which ordered him to disrobe was recognized by him as the voice of God; the voice which spoke in disapproval of his undressing was the voice of the Devil. He felt himself impelled to obey the divine voice. He undressed, in response to the heavenly mandate, and he attempted to go naked up town to the movie district. For several days neither he nor I, nor both of us, could make any progress in understanding his unusual behavior. He confirmed the statement of his minister about his engagement to the young lady book-keeper in his office, and he told me of his love for her. They hoped soon to marry. I asked if there were difficulties or misunderstandings. Somewhat reluctantly he told me that several

months prior to the undressing episode a handsome young woman whom he had not seen before made a small purchase in his store. She regretted that the delivery boy could not take it at once to her apartment, as she was in immediate need of it. The young man offered to take it himself, and he escorted her to her home. Within a few days he found himself delivering another package in her apartment. The woman's husband was on the road, and seldom at home. The young grocer visited her. They sat in the park in the evenings and they often went to the movies together. He continued to call upon the young lady, his book-keeper, in the home of his minister. But he continued also to go out with the handsome young married woman, and eventually he found himself occupying the marital relationship with her. He became troubled by the double life he was living, and he tried to break away from her, but she was fond of him, and he was unable to detach himself. Many of his friends saw them together at the movies. He became afraid that her husband would discover the situation and call him to account. But he was entangled in meshes through which he could not escape.

Finally, early in the summer afternoon in the store, the voices spoke to him—the voice of God and the voice of the Devil. But he did not think of the voices as related to his troubled mode of life. He had no idea what they meant. The divine voice he felt impelled to obey, and the other voice to disregard. He remembered clearly how insistent he was that he must go up into the movie district while he was naked in order that his acquaintances might see him nude. He remembered that he intended to go while nude to a movie, in the hope that many of his friends might see him there. But he had no idea why he wished to make such a strange exhibition of himself. He could not understand why the voice of God told him to take off his clothes, so that he would be naked and like a new-born babe, nor could he understand why the voice of the Devil told him to keep on his clothes, and that all would be well. All of it was mystifying to him. He remembered, too, how the desire to go to the movie region left him as soon as he was made to put on his clothes.

I asked him if it had occurred to him that

the voice of God could have been only his own mind speaking out to him in protest against his dual life and his unfaithfulness to the young woman to whom he was engaged. I asked him, too, if he could regard the command that he make himself naked as a suggestion that he make the attempt to become clean and innocent again, as he was in infancy when a new born babe. I intimated that his desire to exhibit himself naked to his friends at the movies was his attempt to prove to them that he had been born again, and that he had freed himself from the domination of the married woman. And I expressed the hope that he might be able to interpret the voice of the Devil advising him to keep on his clothes as his carnal desire to continue to live with the married woman. For a day or two he seemed to be absorbed in the study of some deep problem. Then he came to me, and he told me that at last his strange behavior had all been made clear to him. The married woman, alarmed perhaps because her paramour had lost his mind, left the city. Soon there was a wedding in the home of the minister, and the young grocer and the young lady book-keeper have been happy ever since. Was he ever insane? The physical being often passes through strange convulsive-like efforts to throw off an assaulting foe. Is it stranger that the mental being sometimes cuts queer capers in an effort to rid itself of injurious influences at work upon it?

Robert Louis Stevenson died long ago. There has been no recent census of the surviving members of the family of Dr. Jekyll and of Mr. Hyde, but many of them are probably still in existence.

In youth, before I had ever looked into a medical book, I was familiar with and terrified by the results of the varicose vein of the leg. It was not talked of in our neighborhood by that name. The most horrifying manifestation was the chronic, eating ulcer. The country folk called it "setfast." It was regarded as incurable. Our family doctors amputated these legs to save life and get rid of a stinking nuisance.—W. F. Grinstead in *Jour. Missouri Medical Association*, April, 1928.

## PEDIATRICS

FRANK HOWARD RICHARDSON, M.D., *Editor*  
Brooklyn, N. Y. and Black Mountain, N. C.

*For this issue*, G. W. KUTSCHER, M.D.  
Associate, The Children's Clinic  
Black Mountain, N. C.

### THE TREATMENT OF DIPHTHERIA

To say that a case of diphtheria, early diagnosed, is half treated is putting it mildly. The diagnosis made, there is usually nothing more to do in most cases aside from administering one of the three known and recognized specifics in all our armamentarium—diphtheria antitoxin. This article might be concluded with the preceding sentence but a more detailed study of the treatment of the disease will be presented.

Every suspicious case of sore throat with a confluent membrane demands at least a small dose of antitoxin when first seen, the diagnosis to be confirmed later. In case the throat culture does not prove the presence of the disease no harm has been done. If the throat culture is returned positive a larger dose can then be given. In undoubted cases the larger dose can be given when the patient is first seen.

The sick-room should be well lighted and ventilated. Everyone other than the nurse should be excluded from the room. The careful handling and disposing of the nasal and throat discharges is most essential. The patient should be in bed no matter how slight the attack. Rest in bed is absolutely essential and as little handling of the patient as is possible assists in obtaining this rest. Local treatment is to be avoided, if for no other reason than to avoid the attending excitement which accompanies such measures.

Soreness of the patient's throat calls for a liquid and semi-solid diet. Milk can be given every two hours in such quantities as the patient can take. There is little danger of overfeeding, in fact the reverse is more apt to occur. In addition to milk, beef tea, beef juice, or thin gruels can be given. The addition of bread to the milk helps to keep the child from tiring of a straight liquid diet. Intubation cases seem to do better on the semi-solid diet as liquids seem to cause attacks of coughing and choking. A nursing child had better be fed on milk drawn from

the mother's breast by manual expression. In this way the child is saved the exertion of suckling, and the mother protected from the danger of the disease.

The use of local measures has been abandoned. We no longer seek to remove the membrane by applications or mechanical means, or to destroy the bacilli in the throat. Experience has taught us that we can not get rid of either the membrane or the organism by the use of such measures. Nasal irrigation is to be avoided because of the high incidence of otitis media following its use. Steam inhalations are advantageous. They seem to assist in loosening the membrane when antitoxin has been given. The addition of phenol, eucalyptus, benzoin comp., etc., is beneficial in the administration of inhalations. When given under a tent the inhalations should not be given for a longer time than fifteen minutes every three or four hours, or the patient will become exhausted by long continued use.

With the advent of antitoxin, most of the former remedies for diphtheria have passed from use. We now know that antitoxin acts in two ways. First, it neutralizes the toxins that have been formed by the bacilli; and secondly, it stimulates the body cells to produce more antitoxin. The dosage of diphtheria antitoxin, since we have no means of exactly determining dosage suitable to each case, depends upon three things—1. severity of the case, 2. time of injection, 3. age of the patient. Authorities agree that the blood content of antitoxin reaches its height when given subcutaneously only after the third or fourth day. Therefore, because of the slow absorption, large doses given early are favored. A single large dose is much more efficacious than repeated small doses. The longer we use antitoxin the more we learn to realize that it is practically harmless. We should use larger initial doses. This is the trend of present day opinion. The author recalls his fearless days of internship where he gave an initial dose of 110,000 units to a moribund patient brought in from a low grade hotel. Still more would have been given but the supply of available antitoxin was exhausted. The patient recovered! Another memory of those days is the statement made by a departmental head that "As regards

diphtheria antitoxin, one drop will do as much harm as will a quart."

"Have I given the patient enough, or must I give another injection," is a thought that goes through the mind of all of us, for we realize how treacherous a disease it is. The symptom to watch for is a granular appearance of the membrane, with loosening of the edges, improvement of constitutional symptoms in the pharyngeal cases, and relief of stenosis in the laryngeal type. The effects of the administration of a sufficient quantity of serum may in some cases be almost immediate, and certainly should be demonstrable in twenty-four hours. The constitutional effect is as marked as the local effect. The temperature falls in less than twenty-four hours, the pulse is improved, and the patient is much better in every way.

Serum sickness, an occasional annoying result of the administration of antitoxin, readily responds to the injection of 5 to 10 m. of adrenalin chloride, or sodium bicarbonate sponge baths. Some persistent cases call for repeated injections of adrenalin, and continued sponges.

The site for injection of the serum we choose is the region of the left side of the abdomen, for both subcutaneous and intramuscular injections. The left side is preferred because of the possibility of embarrassment in case some pathology developed in the right lower quadrant, incidental to a case of treated diphtheria. The local tenderness resulting from the injection is best borne here, as most patients will rest in bed on their backs.

The importance of early administration of antitoxin is brought out by the following report of the American Pediatric Society:

First	day	injection	mortality of	4.4%
Second	"	"	"	7.4%
Third	"	"	"	8.8%
Fourth	"	"	"	20.7%
Fifth	"	"	"	35.3%

*The previous administration of a series of toxin-antitoxin does not prevent the later administration of diphtheria antitoxin.* Likewise little fear need be felt in the use of diphtheria antitoxin where a previous dose of scarlet fever antitoxin has been given. Caution is always advisable where the patient is an asthmatic.

For those who wish it, a very conservative dosage scale has been devised by Park, as follows:

	Mild	Moderate	Severe	Very Severe
Under 1 year.....	2,000	3,000	10,000	10,000
From 1 to 5 years	3,000	5,000	10,000	10,000
From 5 to 9 years	4,000	5,000	10,000	15,000
From 9 to 15 years	5,000	10,000	10,000	20,000

An immunizing dose of 500 units is to be given all infants in the home for protection, unless those exposed are being seen by the physician every day; while adults had better be given 1,000 units. Because of the treacherousness of the laryngeal type of diphtheria, we seldom give less than 10,000, better even 20,000 units; and repeat in four, six or twelve hours.

Just as long as the public continues to treat sore throat without calling in the doctor, so long will diphtheria enjoy its complications and sequelae. Every physician has heard, "Doctor, we thought it was only an ordinary sore throat," when as a result the case is well advanced when first seen. There is one prophylactic measure for all the complications of diphtheria; and that is the early and efficient dosage of antitoxin.

Intubation has saved many lives; but it requires experience to perform. The indications for intubation are found in cases of laryngeal diphtheria presenting extreme restlessness and dyspnea, cyanosis, sweating, and marked retraction of the supraclavicular and infraclavicular spaces. When skilled hands for performing intubation are not available, a tracheotomy may save the life. Tracheotomy may also have to be done when intubation fails.

Two types of cardiac involvement are encountered. The early type comes on during the first two weeks; and is treated the same as any other attack of cardiac distress, found in any of the other exanthemata. The late type is the more treacherous, and is encountered usually between the second and fourth weeks after the onset of the disease. It is attributed to the degenerative changes in the heart, especially in the nervous mechanism; and is spoken of as pneumogastric paralysis. An abrupt onset during convalescence, with repeated attacks of vomiting accompanied by precordial and epigastric pain and tenderness, with feeble pulse which may be rapid or ex-

ceedingly slow, usually means the late type of cardiac failure. In all severe cases great care must be taken to keep down all physical exertion during convalescence; for an attack of vomiting or sitting up in bed may kill the patient. For this condition absolute rest in bed, flat on his back, is essential. If necessary this may be assured by repeated small doses of morphine. Stop all food by mouth to prevent vomiting; and if necessary feed by bowel. The stimulants used should be those that affect the medullary centers, such as camphor, caffeine, atropine and strychnine, as well as digitalis and atropine combined. Like the late type of cardiac involvement, the various types of paralysis come on late in the convalescence. The likelihood of their occurrence is in direct proportion to the severity of the disease. The prognosis is usually good where the extent of the paralysis is not wide. In contradistinction to the last statement, the author has yet to see a recovery from anuria.

In the mild cases the patient should remain in bed at least two weeks. The head should be raised gradually, one pillow per day, until the patient is sitting up. In severe cases the patients must be kept in bed, flat on their backs, for from four to six weeks. We must be certain that there is no heart involvement before these patients are allowed to get up gradually. Two negative throat cultures must be obtained before the patient is released from quarantine. The other members of the family should also be examined, as from 50 to 100 per cent of them are likely to be carriers. Negative throat cultures in the carriers are usually readily obtained by the following technique. On awakening, after each meal, and during the evening, the nares and fauces are flushed with saline solution to remove the mucus. Then they are sprayed with 2 per cent gentian violet solution. Before one of the treatments, a culture is taken. When two negative cultures are obtained 48 hours apart, with the dye discontinued, that individual is no longer a carrier. The patient and family must be warned that the dye will stain everything except the mucus membranes, the skin and the teeth.

We feel that the room should be fumigated and thoroughly aired, even if it is done more for the psychological than the bactericidal effect.



## EAR, EYE, NOSE AND THROAT

For this issue C. N. PEELER, A.B., M.D.  
Charlotte, N. C.

### CARELESSNESS

The great majority of the accidents of the present day is due to carelessness. This statement is true of the accidents occurring on the public highways. It is also true of the accidents that occur in the home. This is especially true when we think of the number of instances in which small children get foreign bodies in the air and food passages, when the accident could have been prevented by mothers or nurses.

An ounce of prevention is worth more than a pound of cure. Children under two years of age should not be given peanuts, peanut candy, or food of any kind with seeds in it.

Children should be taught not to put inedible things in the mouth. Coins and teething rings are examples. All places where the baby plays should be cleared of all small loose objects, corn grains, nails, tacks, etc. All broken or loose parts of toys should be thrown away. All pins should be out of reach of the baby. The rule should be to close all safety pins.

In nine out of ten of the foreign body cases that come to our clinic carelessness is the explanation—carelessness on the part of someone—not wilful nor stupid carelessness; but at the same time there is not sufficient care to prevent the baby from putting something in its mouth that may cause its death.

In conclusion I wish to quote Dr. Chevalier Jackson, *Hygeia*, December, 1923:

"Peanut candy is often fatal to babies.

"Watermelon plus a mother's carelessness has killed many a child.

"Safety pins have killed more babies than have firearms.

"Small toys are fraught with danger to small boys—and to small girls.

"A button box is a dangerous plaything for children; so is a string of beads."

---

"You say," quizzed the lawyer, "that the defendant fired three shots in rapid succession? Now, how far were you from him when he fired?"

"The fust or the last one, sah?"

"Why? What difference does that make?"

"Bout a quatah ob a mile, sah."

---

## ORTHOPEDIC SURGERY

For this issue, R. A. MOORE, M.D.  
Winston-Salem, N. C.

### "FRACTURES OF THE FEMUR"

The problem of treatment of fractures of the femur is one which is a burden to the family, and a tax on the skill and patience of the physician. I feel that anything we can do to lessen the financial burden of the average family by shortening the period of hospitalization without reduction of safety to the patient should be welcomed by both patient and physician.

In children the period of time for union of such fractures is not so long as in adults, but even here the family is not content to leave the child in the hospital until union is complete.

For the past four years, I have been using a method which I understand has been described, but I am unable to give proper credit at this time. However, I used the method for some time not knowing that it had been reported. In my own hands I have found it fool-proof, and more efficient than any other method that I have used.

Briefly the method is as follows: As soon as the patient's condition will permit, x-ray examination having been made, the patient is anesthetized if there is displacement of fragments, anesthesia is usually not necessary if there is no displacement of bony fragments. Under complete anesthesia the patient is placed on some extension table (Howley in my work); the usual traction straps of adhesive are applied with spreader at sole, followed by the padding of glazed cotton over the area for a spica cast, the cotton being applied a little thicker at point of fracture and below to allow for some swelling. The swelling will not be marked, if good position is obtained or strong traction is applied.

An ordinary plaster spica is applied—except it is not applied closely on inside of thigh at perineum, it extends only to the ankle, and there are well padded perineal straps incorporated in the plaster on outer side of the tuber ischii for counter traction. A metal rod of about the size and shape of the lower part of a Thomas splint, extending from above to knee to 10 to 12 inches below the foot is incorporated in the plaster, and

plaster made extra strong on back of thigh and leg. As soon as the plaster is sufficiently dry, a piece of very elastic rubber is fastened to the cord in the spreader, fastened over ends of the iron bar and pulled as tightly as desired for traction to maintain position or prevent shortening.

The above method is not satisfactory in fractures of the lower third of femur, but can be used in fractures of the upper two-thirds, including head and neck of femur, and has been used very satisfactorily in bilateral fractures. I have not had any trouble with the straps pressing on femur except where the plaster was too high, irritating the skin.

The patient can be moved freely and carried to the home at an earlier date without fear of displacing fragments.

---

## UROLOGY

---

HAMILTON W. MCKAY, M.D., *Editor*  
Charlotte, N. C.

### THE INTERPRETATION OF UNUSUAL SHADOWS OUTSIDE OF THE URINARY TRACT

A radiogram should be made routinely on all patients with either clinical symptoms or positive urinary findings (pus and blood in the urine) of sufficient importance to direct attention to the urinary apparatus. For the radiogram to be of greatest value to the genito-urinary surgeon, it must be made under the most favorable conditions, which are as follows:

1. The patient must be thoroughly prepared.
2. The radiographic technique as to position, etc., must be perfect.
3. The buckeye diaphragm is almost an essential and adds much to the clearness of the radiogram; especially is this true in large fat people with thick muscles.

In the preparation of urologic patients for the routine plain x-ray, we prefer to give them castor oil the night before examination and a high s.s. enema immediately before the radiogram is taken. By this preparation we are convinced that the interference by intestinal gas is reduced to a minimum when the radiogram is completed and ready for interpretation. Of course, where an acute abdominal condition is suspected, as a differential diagnosis between acute appendicitis

and stone in the lower third of the right ureter, no purgative or enema should be given, and in such cases we usually depend on an opaque catheter and radiograms taken in different positions if necessary. In cases of renal colic, after the administration of morphine, it is extremely difficult to properly free the intestinal tract of gas, and it is frequently true also that a small gas bubble will cover the very area you are anxious to review. Such faulty preparation makes a second examination necessary, thus prolonging the patient's stay in the hospital and the expense of the whole procedure. We feel that we cannot place too much emphasis on thorough routine preparation done intelligently before the plain radiogram is made. We feel in our clinic that the taking of a plain radiogram without preparation with the idea of demonstrating small shadows in the line of the ureters, is usually useless.

A brief consideration of shadows found in roentgenograms of the urinary tract are of sufficient interest and justify a brief discussion and the illustrative case report which follows. With the present-day diagnostic urologic procedures, as the opaque ureteral catheter, the uretero-pyelogram and fluoroscopy, or a combination of these, we should be able to diagnose and to localize shadows inside the urinary tract.

In this discussion your attention is invited to small shadows in the lower third of the ureters which appear to touch the radiographic catheter but are extra-ureteral. In this connection we also see in a largely dilated ureter a shadow which may be quite removed from the opaque catheter and which may also be inside the ureter, so in cases like the above it is well to distend the ureter and kidney with air or some pyelographic medium in order to reassure the diagnosis.

In making a diagnosis of unusual shadows in roentgenograms of the urinary tract, Dr. W. F. Braasch, of the Mayo Clinic, says: "The most frequent causes of confusion are—

1. Absence of shadows.
2. Localized areas of tissue calcification
3. Gall-stones
4. Renal tuberculosis
5. Unusual position of shadows (high, medium or low)."

I have tried to emphasize the importance of thorough preparation and perfect radio-

graphic technique. It must also be remembered that 10 per cent to 12 per cent of stones, chiefly of the uric acid and zanthin group, do not cast a shadow in the radiogram.

The localized calcification of tissue in the region of the kidneys or in line with the ureters is the most common cause of unusual shadows appearing in roentgenograms which shows that they are outside of the urinary tract. In this group we have—

1. Calcified lymph nodes (the so-called phleboliths)
2. Calcified mesenteric glands
3. Calcified areas in renal or other tumors
4. The encrustation of renal tuberculosis.

Gall-stones always have to be considered with the appearance of unusual shadows which show on the radiogram, in the region of the right kidney, but with the improved roentgenographic technique, combined with pyelography, the diagnosis of gall-stones should be made fairly certain.

A brief report of the following case will serve to illustrate how a localized calcified area of tissue in line with the ureter simulates renal or ureteral stone and how the differential diagnosis can be made and proven. The case is as follows:

Man, aged 30, traveling salesman. Examined 7-9-25. Chief complaint—pain in lumbar region low down, a little to the right of the median line. There was nothing in the history or examination at that time, of importance except x-ray (report No. 2610) done on the above date was as follows: Large dense shadow in line with the right ureter between the fourth and fifth lumbar vertebrae. My opinion at this time was that the pain complained of had no connection with the urinary tract, and that the shadow was extra-ureteral. The patient examined by an internist 3-12-28, who in turn had radiograms made, again referred the patient to me this date. The chief complaint bringing the patient again to the internist, practically three years from the time he was first seen, was vague abdominal pains about midway the abdomen on the right side. The roentgenologist reported a shadow in line with the right ureter which should be differentiated. After two plain radiograms were made we were fairly certain that the shadow was a "shifting" one and that its relationship to the

urinary tract, and its general contour, was not that of a renal or ureteral stone. In order to definitely differentiate this shadow we did air uretero-pyelogram and a radiogram in the lateral position with an opaque catheter in place. Our conclusions were (x-ray No. 2610) that there is a group of localized calcified areas near the transverse process of the fourth lumbar. These are differentiated as being extra-ureteral. The air uretero-pyelogram shows a normal straight ureter with a perfectly normal kidney pelvis and calyces.

## RADIOLOGY

JOHN D. MACRAE, M.D., *Editor*  
Asheville, N. C.

### RADIOLOGY AS A SPECIALTY

This is the latest division of medicine to be given a section in the American Medical Association. The development of radiology from the discovery of x-rays to its present state of high efficiency has been entirely within the experience of some of us, and we are proud at last to have this recognition from the greatest medical society in the world.

The character of the pioneers in radiology is responsible for the high ambitions of those who follow them, and who are striving to make and keep this branch of medical practice above reproach and of the greatest usefulness.

Radiologists are responsible for the attitude of the profession at large toward their specialty. They must carry on in such a way as to command recognition as consultants in medicine and surgery rather than as makers of x-ray pictures.

Without a general knowledge of medicine and surgery a man is not qualified to become a radiologist and will not be able to do justice to his patrons, either physicians or patients.

Unless the profession at large recognizes radiology as a highly specialized branch of medicine its future is to be chaotic.

Certain menaces to radiology exist; as, commercial x-ray laboratories, x-rays in the hands of quacks, the tendency of some hospitals to get their x-ray service at the expense of the radiologist and the desire on the part of some physicians to get unreason-

ably cheap x-ray service for their patients. Probably the most serious menace is one which springs from the fact that x-rays are so universally useful in medicine and surgery that physicians employ them without enough understanding.

The commercial x-ray laboratory is found in the large cities. It is sometimes run by a technician who is sponsored by a physician. It may be owned by individuals who employ a physician to run it or it may be run by one not a professional man. Such establishments can not live without patronage; and to get patronage they must cater to physicians who are willing to accept work done by unqualified persons, its cheapness being its only reason for acceptance. Physicians who patronize such places are hindering the development of radiology and at the same time are getting inferior service for their patients and themselves.

There are few states which have laws attempting to restrict the use of x-rays to licensed physicians. Quacks are generally free to purchase and install equipment, to make x-ray examinations and give treatments. By their advertisements and plausible promotion of themselves they appeal successfully to the credulity of many people. It requires very little imagination to recognize the harm they can do.

Some hospitals, in their zeal to place every diagnostic and therapeutic agent within reach of their patrons, have established fees for x-ray work which do not cover the expense of the service. If the resulting x-ray work is good it is at the expense of the radiologist, but it is a fact that cheap work will be inferior work. At any rate it causes comparisons to be made which are detrimental to the private laboratories where fees must be charged in accord with the expense of doing the work and the experience and qualifications of the radiologist.

Desire of physicians to obtain cheap x-ray service for their patients makes them impatient with the fees charged by the radiologist who spends his whole time and most of his income to acquire the equipment and knowledge necessary.

All these menaces tend to promote cheap work, and that means mistaken diagnoses and badly planned x-ray treatments, with resultant failures. Psychology is such that many

excellent x-ray diagnoses and successful treatments will be forgotten, while one failure will be remembered to the discredit of radiology.

The fact that x-rays are a necessary adjunct to the practice of medicine in all its branches furnishes a temptation which the salesman enlarges upon by showing the doctor how easy it is to make x-ray pictures and now good an income an x-ray machine will yield. Consequently many doctors buy x-ray machines without any appreciation of the need for special training. The result is often an unpromising investment, while patients are called on to pay for worthless x-ray examinations. Again radiology is discredited.

The problems of radiology belong to the whole of the medical profession. The good of the profession demands the highest development of each of its branches and the youngest one needs to be guided understandingly.

No branch of medicine has such broad application. The radiologist must have experience in medicine and surgery and must be able to meet the members of each specialty on their own ground.

To divide the use of x-rays among the other specialties would be a great hindrance to the scientific development of radiology. Its various procedures, whether diagnostic or therapeutic, are so broad in their application to the patient's welfare that the radiologist must have a very general knowledge of his subject.

The radiologist is always a medical consultant and must do his work in such a way that his conferees will recognize this fact.

---

## DERMATOLOGY

---

JOSEPH A. ELLIOTT, M.D., *Editor*  
Charlotte

---

### THE DIAGNOSIS AND TREATMENT OF EPITHELIOMA (SKIN CANCER)

Epitheliomas are divided, according to clinical appearance, into four varieties, viz.: superficial, discoid, papillary and deep. There are several clinical sub-divisions described by various authors. Histologically there are two varieties, the basal cell epithelioma and the squamous cell type. The former is by far the most common and fortunately it is much less malignant than the lat-



ter. Lesions involving the mucous membrane are usually squamous cell in type and metastasize early. Most of the lesions involving the skin alone are basal cell in type and rarely metastasize unless the subcutaneous structures or mucous membranes become involved.

Epithelioma may arise from a number of so-called precancerous lesions, such as senile keratoses, seborrheic verrucae, and cellular naevi, or from long standing keratotic lesions like leukoplakia, arsenical keratoses, lupus erythematosus, etc. A very large percentage of the lesions appear on the exposed surface of the skin. It is therefore thought that exposure to the elements plays some part in their production. Skin cancers are more prevalent in farmers and other classes of people who live an outdoor life.

The diagnosis of an epithelioma can usually be made by a careful clinical examination. The lesion may begin either as a superficial or deep nodule, superficial erosion, warty papule or scaly patch such as a senile keratosis. The nodules are firm, waxy in appearance, and around the borders and over the surface of the lesion there is considerable telangiectasia. In ulcerated lesions the rolled pearly appearance of the border is of great diagnostic significance. The base of these lesions is irregular, and usually of a bright red color in contrast to the pearly border. The redness is due to a hypertrophy of the blood vessels in an effort to supply the rapidly growing pathological tissue. As a result of the increased blood supply the lesions bleed freely when traumatized.

In establishing a differential diagnosis of an ulcerated epithelioma there are two conditions that must be taken into consideration; tertiary syphilis and lupus vulgaris. Frequently an epithelioma is mistaken for lupus. If we remember the following points this error will be avoided in a large percentage of cases. Lupus vulgaris begins in childhood while epithelioma usually appears late in life. Lupus consists of soft, brownish, apple-jelly nodules, while an epithelioma contains hard, pearly nodules. Epitheliomas are differentiated from tertiary syphilis by the borders in each case. An epithelioma has a rolled, pearly, nodular border while a tertiary syphilid has a smooth, sharply circumscribed, punched-out border. The base of an epithe-

lioma is much more irregular than that of a gumma. Frequently the question arises, has a senile keratosis undergone malignant degeneration? As a rule the clinical evidence of malignancy in such a case is the presence of ulceration. The patient's attention is first attracted to the ulceration by the fact that the lesion bleeds slightly when the scale is removed. The scale is soon replaced by a crust and the typical clinical picture of an epithelioma is present.

There are a number of methods of treating epitheliomas which give good results. We are convinced that any single method, however good, will not yield the best results in all cases, but by the judicious use of different methods we will be able to obtain a higher percentage of cures. The type and location of the lesion are important factors in determining the method of treatment. We feel that one should strive to obtain as good a cosmetic result as is consistent with a permanent cure. A large majority of skin cancers are situated on the face and the patient is always appreciative of a good cosmetic result.

It is our opinion that all cancer cells should be destroyed or removed, so far as possible, as the first step in the treatment. When the lesion is basal cell in type and not in apposition to a mucous membrane we curet the lesion thoroughly, desiccate the base and then resort to radiotherapy. As a rule the lesion heals in three to six weeks and the cosmetic result is all that could be desired.

When the lesion is on a mucous membrane or has invaded the subcutaneous tissue, the best results are obtained by electro-thermic methods,—either desiccation or coagulation. The choice of current used will depend on the location and depth of the lesion. The Oudin current by which desiccation is produced, is of relatively high voltage and low amperage, and produces a moderate degree of heat. This is sufficient, however, to produce evaporation of the water content of the cell and completely devitalize it. Clark states that cells submitted to the desiccation current appear shrunken and shriveled with their nuclei condensed and elongated, and assume a mummified appearance. This change he describes as mummification necrosis. Since the destruction is not great, there is little fibrous tissue formation, with a small result-

ing scar. This method, therefore, is excellent in treating lesions of the eye lid where a good cosmetic result is not only desired but essential. It is used to advantage in very small lesions of the lip or leukoplakia of the buccal mucous membrane. We should not lose sight of the fact that the heat produced by either desiccation or coagulation is produced by the resistance of the tissues to the current. It does not char the tissues, as a cautery does, and is, therefore, more penetrating.

Coagulation is produced by the d'Arsonval current which is of low voltage and high amperage and, therefore, induces intense heat. It not only dehydrates the tissues but causes coagulation of the cell protoplasm. Due to the great destruction of tissue there is a large amount of scar tissue formation. This method is used where the lesion has extended into the subcutaneous tissue and particularly in lesions of the lip and buccal mucous membrane. We should endeavor to destroy the entire lesion with one treatment. It is wise, however, to supplement the treatment with x-ray or radium.

The treatment of skin cancer with x-ray or radium alone will undoubtedly cure many cases. On the other hand the percentage of recurrences is much greater than it is with a preliminary curettage or an electrothermic treatment. In McKee's statistics, he states 92 per cent of the cases that receive a preliminary curettage remain well as against 89 per cent not curetted. He had 9 per cent recurrences in the curetted group and 15 per cent in those not curetted. There is an additional disadvantage of requiring the patient to come to your office over a much longer period of time when radio-therapy alone is used. Then, too, there is more danger of telangiectasia as a great deal more of the ray is required. This is of importance as a good cosmetic result is greatly desired in lesions of the face.

lungs, resolved to die in battle rather than lingeringly by disease. In the fight his chest was pierced by an enemy's spear, giving ample drainage to his empyema and a prompt recovery to the patient. The story is related by Cicero who lived in the first century B. C. From then till now drainage has been the treatment of empyema, but experience has proved the necessity of an understanding of the condition of the lung, of the kind of fluid in a pleural effusion and of the infecting organism, before the proper treatment can be determined.

In pleurisy effusion is in effect at first conservative, putting both lung and pleura on the diseased side at relative rest. The fluid is helpful to the patient as long as it remains non-purulent and is not of sufficient volume to by pressure embarrass action of the heart and of the other lung. In tuberculous pleurisy the fluid, if of moderate volume, should be left severely alone. Most non-tuberculous effusions follow influenza and pneumonia. Until the great influenza epidemic of 1918 physicians considered effusions after pneumonia an early stage of empyema and an indication for rib resections and drainage. The empyema commission appointed by the Surgeon General of the Army found that, in certain groups of post influenza empyema in the army training camps, the mortality was 85 per cent. After early thoracotomy the shock of operation and the pneumothorax proved too much for such acutely ill patients to overcome. One of the great medical discoveries of the world war was learning that the substitution of aspiration for thoracotomy in these early cases resulted in a greatly lessened mortality. In the early stages of exudative pleurisy the pneumonia is of primary importance and should be treated with fresh air, good nursing and proper diet. Not until the pneumonia has resolved and the exudate become frank pus is resection indicated. Except for tuberculosis the kind of organism producing the infection is of prognostic but not of therapeutic importance. Unresolved pneumonia is usually empyema.

Drainage of empyema may be by the closed or by the open method. In the closed method a small area of a low intercostal space is infiltrated with novocain solution and a short skin incision made through which into the

---

## SURGERY

---

GEORGE H. BUNCH, M.D., *Editor*  
Columbia, S. C.

### EMPYEMA

The history of curing empyema by drainage probably begins with Pheræus, who, when told that he had an incurable ulcer of the

pus cavity is forced a trocar about the size of a lead pencil. When the stylet is removed a rubber tube of suitable size is immediately inserted through the canula which is then removed from around the tube. The external end of the tube is connected with an aspirating bottle in which negative pressure is maintained. This gives drainage and prevents lung collapse and pneumothorax. A *T* tube, clamped when not in use, allows the injection of Dakin solution into the empyema cavity. This tends to sterilize the cavity but is most useful in liquefying masses of plastic lymph which might plug the tube and obstruct drainage. The closed method is particularly useful in children. There is no operative shock; there is no lung collapse; and there is no soiling of the patient, for drainage is into the negative-pressure bottle. However, constant care and hospitalization are necessary.

Open drainage is by thoracotomy. The operation should be done under local anesthesia. The opening should be in the most dependent portion of the empyema cavity so that a finger inserted through it lies from base to tip along the floor of the cavity. We make a vertical incision through the skin and muscles below the angle of the scapula so that if, after rib resection, drainage is not dependent a lower rib may be resected through the same incision. Tubes should be tied so that they remain in place and should be removed in ten days or two weeks. Continued fever means an obstructed tube or a walled off pus pocket somewhere.

Tuberculous empyema may be diagnosed by the history, by the lung involvement, by the demonstration of tubercle bacilli in the exudate, by animal inoculation or by biopsy of the sectioned pleura. Mixed infection may occur. Tuberculous empyema should be drained by aspiration if possible. Thoracotomy should be done only as a last resort, for many of the wounds never heal. The collapsed lung becomes permanently bound by the thickened visceral pleura and a discharging sinus persists indefinitely. A collapsing thoracoplasty is the only cure for such a condition. Dakin solution has no effect on the tubercle bacillus and is useless in these cases.

## LIFE EXTENSION

FREDERICK R. TAYLOR, B.S., M.D., *Editor*  
High Point, N. C.

In this number, we leave the Department of Therapeutics and take up the work of a new department. The reason for this sudden change is the fact that we have just as suddenly changed our vocation, discontinued the practice of medicine for the time being, and taken up life extension work as explained below.

The remainder of this editorial consists with little change of a paper read before the February meeting of the Guilford County Medical Society, which will explain itself as well as the reason for this new department of *Southern Medicine and Surgery*.

### THE LIFE EXTENSION UNIT OF THE NORTH CAROLINA STATE BOARD OF HEALTH

A new piece of work is being undertaken by our State Board of Health, with the approval and help of the International Health Board of the Rockefeller Foundation, viz., the formation of a Life Extension Unit. Life extension work covers, of course, an almost unlimited field—indeed, the entire State Board of Health might well be thought of as a life extension organization. It is necessary therefore, to define within reasonable limits the proposed activities of this unit. Its present objective is to promote periodic health examinations by the family doctor. It is our purpose primarily to serve the people of the state, including the doctors, and so far as possible, we desire to lay this matter before the medical profession in a community first; for unless we can enlist the interest and support of the profession, we are but sounding brass and a clanging cymbal.

Physicians are just beginning to realize their responsibilities and opportunities for service in this field. It is a new field to all of us. We ourselves feel most keenly our inexperience in this line of work, and while endeavoring to help others, have a great deal to learn ourselves. Wherever it is desired, we will be glad to help in the development of the actual technic of periodic health examinations, by examining physicians themselves, members of their families, patients,



or—as the apparently healthy are called—“health clients”; but in no case do we expect to make such examinations without the co-operation and presence of the client's physician. In other words, we are not running an organization to examine the people of the state—we are desirous of promoting the idea that they should be examined by their own doctors, who should keep the records of the examinations in their own offices. Dr. Laughinghouse informs me that he has had over 500 letters from persons all over the state asking where they can get periodic health examinations. His reply has always been, “Go to your own doctor.” If the person goes to his doctor and finds that he is not interested in examining an apparently healthy client it is obvious that something is wrong, and it is up to us as physicians to prepare ourselves for this work.

There can be no doubt of the need of periodic health examinations at all ages. Every pediatricist will tell us that the infant and pre-school child need to be watched up. The medical inspection of school children has long passed the experimental stage. If anyone thinks it foolish that the young apparently healthy adult should have a periodic examination, let him turn to the records of draft rejections on physical grounds during the world war. Not only the rejections, but the assignments to limited service, show a staggering total of physical defects in our young adult male population, and it is safe to assume that there is a like amount of disability among the young women of the country. The need for the early diagnosis of tuberculosis needs no discussion before a body of intelligent physicians. It is perhaps in middle life, however, that there is at present the greatest need for these examinations.

Many of the great killers of yesterday are no longer arch enemies. Diphtheria, typhoid, smallpox, the infantile diarrheas and many others are now under control, and no longer destroy our people wholesale. Some of the infections, such as influenza and pneumonia, still take a great toll; but at present about all we can do to lessen that toll is to build up the general health of the population. Periodic examinations will help in that work.

The great killers of today, however, are largely diseases that begin so insidiously that periodic examinations offer the only means

of catching them early enough to limit their ravages. Chronic circulatory diseases head the list. Cancer, nephritis, and diabetes all begin practically without characteristic symptoms. Gall-bladder disease may masquerade for years under the caption of “functional gastro-intestinal disturbance.” I doubt if it is an exaggeration to say that more than 50 per cent of our middle aged population urgently need dental attention, and that almost as large a percentage need properly fitted glasses. This work will have to be done by dentists and oculists, of course, but the family doctor should be the first to examine the client, for the human being must be considered as a functioning unit and not merely as a handful of teeth, a pair of eyes, or any other isolated bodily mechanism.

So much for the medical side of the problem. There is another aspect of great importance, and that is, the education of the laity in the value of this work. People must wake up to the fact that the human body is worth at least as much as an automobile. Nobody with sense would drive a car for years until it broke down, without having it overhauled occasionally by an expert, yet how many highly intelligent people drive their bodies, which can never be replaced, until they are permanently disabled. In this campaign of education we desire to enlist the aid of newspaper publicity, the pulpit (for should not our bodies be temples of the Holy Spirit?), of parents, teachers, civic clubs, and any and every proper means of presenting the problem to the people as a whole. We are often almost overwhelmed by the limitless possibilities of this work, but we realize that great oaks grow only from little acorns, and that we are in the little acorn stage at present. For one doctor and one nurse (the entire life extension unit force projected at present) to hope to cover the whole state adequately in one year or five years, is preposterous. If, however, by your co-operation, and by the co-operation of the people as a whole, we can demonstrate a modest success in certain selected areas of the state, we hope and believe that funds which are not now available, will be forthcoming to build up a more adequate organization that can cope more fully with the statewide need.

I have just returned from a trip to New



York, where I visited a number of individuals and centers. Dr. C. Ward Crampton; the New York Postgraduate Health Clinic; Dr. Otto Lever, chairman of the Committee on Periodic Health Examination of the New York County Medical Society; the Bellevue-Yorkville Health Demonstration Center; the New York State Tuberculosis Association; the National Tuberculosis Association, and the Life Extension Institute. Everywhere I met with the utmost cordiality and generous help, and, more than that, I learned something astonishing. More than one man expressed himself as amazed at the progressive stand taken by our state in starting a unit of this kind—the first time, so far as I can learn, that any state board has developed such a unit. “You’re the most progressive state in the United States,” was the way one man put it. “We knew you had good roads down there, but we didn’t know you were so far ahead of the rest of us in your public health work,” was the substance of another remark. Gentlemen, the eyes of New York are on us, and perhaps the eyes of the whole country may be on us before long, so we must not fail in this task. I feel more painfully aware of my own inadequacy for this work than for any I have hitherto attempted; but, with your help this matter can be put before the people of this county in a way that will result in material additions to the health, comfort, and longevity of her people; for there is from 18 to 24 per cent lower mortality rate in periodically examined groups than in the unexamined.

---

## OBSTETRICS

---

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville, Va.

---

### THE IMPORTANCE OF STUDYING THE WEIGHT OF THE PREGNANT WOMAN

In this month's issue of *Southern Medicine and Surgery*, the Obstetrical Department wishes to call the attention of the family physician to the importance of studying the weight of the expectant mother. In this connection we urge the profession at large to read most carefully the symposium on maternal mortality carried in the issue for March and April. The essayists give us concise papers full of information and suggestions

which, if applied to our daily routine of obstetrical practice, would make us more useful as physicians and eliminate many difficulties and complications which we encounter in this part of our work. We mention and emphasize the value of these articles by these gentlemen and urge that you read them most carefully.

In the past the profession at large has apparently paid very little attention to the original weight of the patient and the amount she has increased during the period of pregnancy. The profession seems to think it makes very little difference as to how much it is helpful to the mother or the baby, or harmful to one or both. We wish to call attention to the three types of patients and in one of these types we can practically always place our expectant mothers.

The first is that group of women who are naturally thin, lean and long. The distance from the pelvis to the diaphragm is exceedingly great. The pelvic bones are for the most part smooth and uniform. The promontory of the sacrum does not fall forward and downward so very much, so that the distance between it and the under surface of the symphysis pubis is greater than in the average case. This type of patient, say she weighs 115 or 120, becomes pregnant, and if she is allowed to eat any and everything and as much as she wants she will increase her weight from 115 or 120 to 140 and sometimes as much as 160. She becomes, before the end of pregnancy, very large and awkward. Frequently the limbs become swollen because of the over-production of fat, and at the same time her baby has fattened with her. There is quite a percentage of women who fall into this group. We do not object to fat as long as it is good solid fat and the muscles are firm and well developed. This type of patient should not be allowed to increase so much in weight. If she is kept on the proper exercise and diet, instead of increasing 25, 30 or 40 pounds, allow her to increase approximately 20 or 22 pounds, and have the body well developed, she will thereby prepare herself for the ordeal of labor and puerperium, but the better thing still is that she will have a well developed, firm and not too fat baby. To have this well developed condition in the mother and not so fat a baby assures the attending physician that he will have the minimum of difficulty in delivering her.

Another type is that in which you have a short, fat, stubby patient. The distance from the pelvis to the diaphragm is just the opposite from the one described above. The promontory of the sacrum is very markedly forward and downward, thereby lessening the distance between the under surface and the symphysis pubis and the promontory of the sacrum. This immediately gives rise to difficulties which may be encountered at labor. Patients of this type, to which a large number of women belong, will also, if allowed to eat as much as they like, become extremely fat and flabby during pregnancy. In fact weight will increase more rapidly than in the first type mentioned. Babies will grow very large, short and stubby and will thereby cause greater difficulty in delivery. This group of cases should be kept from the very start on a rather rigid diet, allowed to increase very little in body weight and should be given exercise which will keep the muscles well developed. If this is done the baby will not grow fat and large, but on the other hand the tendency will be that of making good progress in growth and at the same time be firm and not so large. If this is accomplished, the attending physician will be assisted greatly in the delivery.

The other type of case is one that is between the very tall and lean patient and the one that is short and fat. This patient has, for the most part, fairly well developed pelvis and the distance from the pelvis to the diaphragm is about one-half way between the extreme of the tall patient and the low patient. The promontory of the sacrum does not come forward and downward so much. The distance from the symphysis pubis to the promontory of the sacrum is usually sufficient to allow passage of the birth of the baby without a great deal of difficulty. These patients, if given half a chance, if fed and exercised properly, will not be so difficult to deliver. They will not present a lot of complications during the period of pregnancy, delivery and puerperium.

In all of these cases, if the patient is fed properly and she gains a reasonable amount of weight she will be brought to the end of pregnancy with a medium sized baby which is well developed and not so hard to deliver. Of course there are exceptions and it is impossible to set up a standard in this field.

We can have an ideal and work toward it. Whatever we do in the matter of diet and study of weight, we are going to have some cases that present difficulties which we are not able to handle as we would like, but the effort put forth to bring mothers to term in perfectly well developed physical health will make it possible for us to decrease maternal and fetal deaths.

The profession at large would help itself very much if all of us physicians paid more attention to the weight, made careful records and studied our cases afterwards to see the results we had obtained. This is a section of the field in obstetrics which has great possibilities in facilitating the delivery of the baby and bringing the mother safely through the ordeal of labor.

---

## GYNECOLOGY

---

CHAS. R. ROBINS, M.D. F.A.C.S., *Editor*  
Richmond, Va.

### REPORT OF INSTRUCTIVE CASE *History*

A white widow of 28 years was sent in by physician who was under the impression that a radical pelvic operation was indicated.

Chief complaint, continuous aching through pelvis and lower abdomen, particularly when standing.

History Present Illness: Her present trouble commenced following the birth of her last child, 2½ years ago. She said the doctor gave her some medicine in her arm and she gave birth with the next pain and so she said she was torn inside and out. Following the birth she did fairly well until after about 8 months when her periods returned and since then she has been suffering continuously. Her periods were very free and she suffered with pains in her pelvis. After suffering in this way for 4 months she was operated and lacerations repaired. Since then her periods have not been so free but she suffers more with a constant pain and soreness in her lower abdomen and pelvis and has more discomfort when she walks.

Previous: Health very good until the time she began to complain as above. Had always been slight but active and able to work without discomfort.

Marital: Married at 19, 4 children, last

one as stated above, and it was following this birth that she developed her present trouble. Her first child was delivered with forceps and did not live.

**Menstrual:** Last period February 15th, lasted about 5 days, ordinary amount of flow. Pain increased very little at time of period. Last summer had a good deal of leucorrhoea but very little at present.

Thinks that previous to her operation voided every half hour. Since then has not been so frequent but voids about 10 times during the day, does not get up at night. No burning, tenesmus or blood. Bowels regular, no rectal trouble.

Walking and standing and exercise of all sorts tires her out and increases the pain in her pelvis and lower abdomen, and she also suffers with her back at times.

**General:** Appetite very poor. Does not suffer from indigestion or discomfort after eating. No nausea or vomiting or attacks of abdominal pain. After birth of baby husband suffered a violent death from accident.

#### *Examination*

5 ft. 1 in., 98 lbs., brown hair, hazel eyes, defective teeth, infected tonsils.

Pulse 76, no tremor, slight enlargement of thyroid and she says she has a choking in her throat particularly after taking exercise.

Breasts negative; abdomen—a definite tenderness in right iliac, increased by lying on left side, increased cutaneous hyperesthesia over right iliac and mid dorsal point of tenderness on the right side; vulva negative, perineum in good condition.

**Speculum:** Cervix repaired and apparently in good condition. Slight amount of discharge in vault of vagina.

**Bimanual:** Fundus anterior, normal in size and shape, left ovary slightly prolapsed but no other pathology in the appendages made out, and uterus was freely movable.

**Standing:** Perineum closes vagina effectively, fundus remains anterior, no evidence of any prolapse even on straining. Abdomen slightly pendulous. Support by placing left hand flat over hypogastric area and right hand over sacrum and pressing the two hands toward each other gave great relief.

**Urine:** Straw, clear, 1014, alkaline, blood 1 to 2 in high power fluid, occasional pus, epithelial cells abundant.

#### COMMENT

The history of the case was suggestive of definite pelvic trouble because it followed labor and occurred in a woman who had previously been healthy. She also gave a history of a precipitate labor following what must have been administration of pituitrin. However, the fact that she had been operated for the lacerations by without gaining relief suggests that there could not have been pronounced pelvic pathology at that time or he would have discovered it, and also that the lacerations were not the cause of her pain and discomfort, because she not only was not improved, but she says that she actually suffered more. The fact that her pain and discomfort were increased by standing and walking suggested the possibility of sacro-iliac relaxation and ptosis. The objective signs suggested a chronic appendicitis, but this was not confirmed by her digestive history. The urinary symptoms were of frequency without other symptoms of inflammation of the urinary tract, and the laboratory findings were too slight to suggest trouble there. The prolapsed ovary was not believed to be causing symptoms, certainly those she had did not point to the ovary. Otherwise she had a normal pelvis.

The first positive sign was the relief from the support of abdomen and back in the manner described. When this sign is elicited when the patient is in the standing position, it is a positive indication of sacro-iliac relaxation usually accompanied with ptosis.

The patient was told that some of the signs pointed to chronic appendicitis but that they were not confirmed by her digestive history. She did have, however, positive indications pointing to ptosis and sacro-iliac relaxation, and an adhesive binder was applied extending around the pelvic girdle. Patient said she felt relief as soon as the binder was applied, and reported a week later as being much improved in every way. Arrangements were made for the care of her teeth and removal of tonsils.

This case illustrates very well the symptomatology associated with sacro-iliac disease and ptosis which are quite common sequelae of pregnancy and confinement. All patients who suffer with pain in the back and pelvis which is increased by exercise should be



tested out for this condition regardless of what pelvic pathology is found. It doubtless accounts for many cases in which the symptoms are not relieved by pelvic operations, even when there is no pelvic pathology. Such patients should wear a properly fitted supporting corset.

---

## NEUROLOGY

---

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston, S. C.

### ENCEPHALITIS WITH UNUSUAL ONSET AND SYMPTOMS

A few months ago the comment was made in this column that a large number of the cases of encephalitis seen in Charleston presented marked hemorrhagic lesions in the cerebrum. The case below is cited because of the prominent hemorrhagic feature, and also because the onset was so dramatic.

A coloured woman of 25, previously entirely well, and of a quiet, dependable type, suddenly began to behave foolishly. Her mother states that she had gone to bed on the night of March 14, 1928, in her usual good health. She awakened during the night and began to cry, sing and talk about religion. She wished to get up and go out on the street and preach the gospel. For the next two days this apparently insane behaviour kept up. She did not complain of pain, nor, so far as her mother knows, any other physical symptom. Apparently no physician was called until the neighbors complained of the noise, and a city physician saw her on the 16th. He tried to get her in the city hospital, but since no beds were available, she was carried to the police station over night and the next morning sent to the psychiatric ward at the city hospital.

She presented a more or less typical picture of a manic episode on admission, but because of the rapid onset, some acute infectious process was suspected, and a close watch kept upon her. There were no physical signs of illness and her temperature and pulse were normal. The blood count was slightly increased, being 15,600 with 68 per cent polymorphonuclears. A spinal puncture revealed clear fluid with one cell, no albumin, no sugar.

The following day the same picture prevailed. She talked constantly, sang, and in

general conducted herself like a manic. On the 19th the record reads: "In general quieter this morning. Eats very little food. Will not keep clothes on. Noisy at times. Fights when she is approached." There were still no physical signs of organic disease detected.

On the 20th, while in a warm bath she began to have convulsive twitching of the right side. The visiting physician was called, and the twitching observed carefully. Extracts from the progress record: "She is having clonic twitching of right arm, right leg, and on right side of face. The movement seemed to involve large muscle groups, although at times one finger or the face alone would contract. The twitching was not rhythmic, but occurred at irregular, short intervals. In general there were 20 or 40 to the minute. There was no nystagmus, and the extra-ocular muscles were not involved. There seems to be a more or less complete loss of voluntary movement in the affected side." The mental state at this time was that of a confused delirium. A diagnosis of encephalitis was thought probable.

The convulsions ceased after about two hours. A spinal puncture revealed clear fluid with 4 cells. Later in the afternoon the patient began to move the left arm and leg about in a manner suggestive of chorea. The right side remained practically paralyzed, although at times she seemed to move the arm or leg slightly. Her temperature began to rise, going to 101.2 by axilla.

The next day she was in a muttering delirium. The right side seemed paralyzed. The temperature remained elevated. A blood count showed 16,240 cells with 78 per cent polymorphonuclears. Spinal puncture gave a clear fluid with 28 cells. During the day she had another attack of clonic twitching on the right side, but the duration was shorter than the first.

On the 23rd the visiting physician made the following note: "Patient was comatose when seen this morning. She was lying quietly in bed and did not respond to stimuli. The pulse is very rapid and small and death is almost certain. Diagnosis, encephalitis, epidemic. On the following morning spinal puncture showed a bloody fluid. The blood count had risen to 29,600 with 87 per cent polymorphonuclears. Death took place that afternoon.



Postmortem examination done by Dr. H. H. Plowden, assistant professor of Pathology, Medical College of South Carolina, gave the following significant findings:

The vessels of the meninges were distended abnormally and there were a few small hemorrhages into the meninges. The vessels around the Rolandic fissures were markedly distended and petechial hemorrhages were numerous. On section both hemispheres showed many hemorrhages, large and small in grey and white matter. Numerous large and small areas of softening were also present. The brain substance generally was of a uniform pinkish tinge, and all vessels, even the smallest, were engorged. The other viscera showed only degenerative changes, subsequent to an acute infectious process.

Diagnosis: Acute epidemic encephalitis, hemorrhagic type.

## PUBLIC HEALTH

LOUIS L. WILLIAMS, M.D., Surgeon U. S. P. H. S.  
*Editor*  
Richmond, Va.

### PRACTICING PHYSICIANS AS HEALTH OFFICERS

Medicine in the past was treatment; it is now concerned with treatment and prevention; in the future it will deal largely with promotion of good health. This realization is beyond our generation. Practicing physicians of today are playing an ever-increasing role in the program of progress. They inaugurated health departments; they conceived the idea of life extension institutes. They are adding this latter procedure to the routine practice of medicine. Doctors today recommend and urge vaccination against smallpox and inoculation against typhoid and diphtheria,—great prophylactic measures against disease, and powerful factors in promoting the public health.

Obstetricians preach pre-natal care; pediatricians isolate children from cases of measles; surgeons warn the "abdominal" case against dietary excesses, and internists warn those afflicted with myocardial weakness against the dangers of hill-climbing. Doctors are the chief advisors on individual health—they should also be the public health advisors of the community. Can they make a close study of community hygiene in order to be competent sanitarians under all circumstances?

Fortunately this is not necessary. Just as specialists developed in the various branches of medicine, so specialists in public health have evolved. To them are referred the details and actual practice of community hygiene; but all physicians should know the broad general principles of public health, otherwise they cannot intelligently co-operate with public health officials.

We have inaugurated this department in the belief that the public health conscience may be aided by brief reminders of the basic principles of hygiene, both individual and community, and with the expectation that physicians will become better public health advisors if from time to time the newer advances in the sanitary sciences be brought to their attention. We invite attention first to one of the rocks on which rest the foundations of public health work:

### THE REPORTING OF DISEASE

Our laws require physicians to report all cases of communicable disease to the health department. Some do so in all cases, some occasionally, and some not at all. It has been contended that sickness is individual and confidential; but the individual's rights are never paramount to the best good of all. The chief public health duty of each doctor is to report his cases of communicable disease, and to do so promptly. In this way, and in this way only, can a health officer know when and where an epidemic is commencing. Effective measures can be applied in checking an outbreak of disease at its inception, measures which may at most palliate when the infection is at its height.

Vaccination of all contacts of the first case of smallpox is easy and effective. When there are a hundred cases it is well-nigh impossible to find all contacts. The only safe procedure then is to vaccinate everyone,—often a difficult and expensive task. Isolation of the first case of measles and daily observation of all associates may prevent an outbreak of the disease. Once its gets well under way, measles continues until the available supply of non-immunes is used up. No practical means has yet been found to stop such an epidemic. Quarantine palliates, but does not control. Report promptly and give other children the best chance of escape.

Need for reporting the more acute exanthems is apparent. What of those diseases

which seem to be non-contagious or for which there is no definite prophylaxis? 'Consider simple goiter—twenty years ago a non-communicable disease of unknown cause, with no known measure of prevention. The reporting of large numbers of cases in certain states focused attention on the problem of high sectional endemicity; led to study of the cause and means of control; produced the now well-known iodized salt prophylactic treatment; defined the area of its use; and has resulted in saving thousands of children and young adults from becoming goitrous; surely a great return from a simple effort. [Owing

to varying amounts of iodine in these various packages of salt it is an open question whether this medication with iodine from the grocery has done more good than harm.—J. M. N.]

Let's report our cases promptly. Today, not next week or at the end of the month, but now when the information can be used most effectively. If we forget, we are likely to get a reminder from the health officer. If we do, let's not throw it away with a shrug—fill out that card and mail it. "Better late than never,—best never late!"

## NEWS NOTES

(Dr. L. B. McBrayer kindly passes on to us items received from over the state)

BOOKS OWNED BY DR. JOHN PETER METTAUER, one of the most distinguished surgeons of his time, have been presented to the Medical College of Virginia library by Dr. J. D. Eggleston, president of Hampden-Sidney College. In addition to being a surgeon, Dr. Mettauer devised and made his own instruments and was a prolific writer for medical journals of his day.

Dr. Mettauer was the son of a young French surgeon, Francis Joseph Mettauer, who was with Lafayette during the Revolutionary War. After the war he settled in Prince Edward county, where Dr. Mettauer was born in 1787. When 19 years of age Dr. Mettauer received a degree from Hampden-Sidney College, and in 1809 he graduated from the medical department of the University of Pennsylvania and settled about six miles from Farmville.

Although Dr. Mettauer began as a country physician, his work became restricted to surgery and patients came from all over the United States and from abroad. He was the first Western surgeon to operate for a cleft palate and the first to amputate the shoulder.

Because of the great demand on his time by students wishing "to read medicine" with him, Dr. Mettauer opened in the year 1837 a medical institute called "Prince Edward Medical Institute." There were only three medical schools in the South at that time, and

Dr. Mettauer taught the institute alone, later being assisted by his sons. The institute became a part of Randolph-Macon College until the War Between the States when it was closed and never reopened.

THE EIGHTH DISTRICT MEDICAL SOCIETY (N. C.) met in Greensboro April 6th. From 8:30 to 12 clinics were held at all the Greensboro hospitals. From 12 to 1 Dr. Ross V. Patterson, Dean of the Jefferson Medical School, Philadelphia, conducted a heart clinic at St. Leo's Hospital Nurses' Home.

"Cancer of the Gastro-intestinal Tract" was discussed by Dr. C. S. Lawrence, of Winston-Salem. Dr. J. W. McGehee, of Reidsville, brought to the meeting a negro woman who has had three sets of twins and in nine years of married life gave birth to ten children. "Ocular Manifestation of Systemic and Nervous Diseases" was discussed by Dr. Charles Reaves, of Greensboro; "Novarsural as a Diuretic," by Dr. Clyde M. Gilmore, of Greensboro; "The Pulpless Tooth," by Dr. C. H. Wheeler, Greensboro dentist. Dr. Roy C. Mitchell talked on "Ultra-violet Ray Therapy."

Dr. J. T. Burrus, president of the State Medical Society, responded to the address of welcome and Dr. Wilbur C. Davison, Dean of the Medical School of Duke University, made an address.

THE MEDICAL ARTS CLUB of Greensboro, N. C., recently formed organization, which it is hoped will ultimately include all physicians in the city of Greensboro, held its second meeting the evening of March 30th.

Dr. C. K. Reaves was elected president of the organization; Dr. J. W. Tankersley was elected vice-president, and Dr. R. B. Davis was chosen secretary-treasurer. This body meets twice a month and the program lasts no longer than one hour and 15 minutes. There were about 25 charter members.

THE SECOND DISTRICT (NORTH CAROLINA) MEDICAL SOCIETY held its annual meeting at the Woman's Club at Williamston, March 15th, many prominent members of the medical profession from Virginia and North Carolina attending.

Dr. Wm. E. Warren, president, called the meeting to order at 8 p. m. and presented Mayor R. L. Coburn, who welcomed the visitors. Dr. John C. Rodman, of Washington, responded to the welcome address.

Dr. John T. Burrus, of High Point, president of the North Carolina Medical Association, was the first speaker. He stressed the importance of co-operation among doctors and the public for the purpose of eliminating contagious diseases. Dr. Burrus recommended frequent and thorough examinations of people.

Dr. R. L. Payne, of Norfolk, one of the most beloved as well as one of the most prominent physicians and surgeons in eastern Carolina and Virginia, read a paper dealing with "Surgery of the Colon." He stated that cancer could be successfully treated if operations are properly performed and in time.

Following Dr. Payne, Dr. Black, of Spartanburg, S. C., made a splendid talk on the duty of the medical profession to the public.

Dr. James K. Hall, of West Brook Sanatorium, Richmond, spoke on some phases of mental disease.

Dr. Cyrus Thompson, of Onslow, entertained the meeting for a short while in an attractive way with his eloquence.

Dr. McBrayer, of Sanatorium, and secretary of the State Medical Association, talked on "Tuberculosis in Children."

Dr. Joseph A. Spruill, formerly of Columbia, but who is now with the State Sanatorium, talked on the undernourished child, and

the importance of its care.

Dr. M. P. Martin, of Norfolk, gave a short illustrated lecture on "The Results of Liver reeding in the Anemias."

Dr. C. O'H. Luaghinghouse, State Health Officer, spoke extemporaneously.

Dr. Paul Whitaker, of Kinston, spoke on intestinal parasites, pointing out in particular the hookworm.

Dr. Whitaker's talk as well as that of Dr. Peery, of Kinston, dealing with Tonsil Surgery, were highly commended by the professional men present.

Dr. Frank Baine, of Richmond, Public Welfare Commissioner of the State of Virginia, spoke of the advantages of county home grouping in that state.

At 1:30 a. m., after a session of five and one-half hours, Dr. Mangum, of Kinston, was elected president and Dr. Ira M. Hardy, of Greenville, was chosen secretary. The next meeting will be held at Kinston.

With nearly 100 of the leading doctors of the Carolinas and Virginia visiting here, Williamston may well boast that the gathering was the most distinguished ever assembled here.

The visitors were warm in their praise of Dr. Warren and his co-workers here for the entertainment and the program given them.

—Special Williamston Correspondence.

ST. LEO'S (Greensboro) HOSPITAL STAFF elected Dr. Frank A. Sharpe president at a recent meeting. Dr. Allen C. Banner was elected secretary-treasurer. The retiring officers of this organization are Dr. C. E. Moore and Dr. Russell O. Lyday.

The staff has been reorganized to conform with the requirements of the American College of Surgeons.

The laboratory department has been expanded, including the addition of a room for basal metabolism examinations, the addition of a new equipment and enlargement of scientific work under the direction of Dr. V. Joe, of Detroit, Mich.

The x-ray department has been expanded with the addition of special physiotherapy, with alpine lamp and diathermy, also a cystoscopic department with new table.

The operating rooms have been renovated, including the addition of one more room, new ceiling lights, gas machine and a promise has



been secured from doctors to equip a complete instrument cabinet.

A splint room has been added which contains a supply of all kinds of apparatus for fractures and other orthopedic work.

An autopsy room has been installed on the first floor.

To the children's department has been added two additional rooms, a bath room and enclosed porch.

The main halls, second and third floors and annex have been covered with tile. Private rooms have been renovated and decorated.

During the past year a total of 1,848 patients were handled at this institution and during the same period of time there were only 87 deaths in the institution, a remarkably low record for a hospital which receives so many desperate, emergency and far advanced cases. Of the total number of patients, 1,371 were surgical, 380 were medical and 97 were obstetrical.

---

THE RANDOLPH COUNTY MEDICAL SOCIETY met in Asheboro, N. C., March 15th at 2:30. The following officers were elected: president, Dr. W. L. Lambert, Asheboro; vice-president, Dr. C. C. Hubbard, Farmer; secretary-treasurer, Dr. Tiffany Barnes, Asheboro.

A committee of three, Drs. Dempsey Barnes, C. C. Hubbard and George H. Sumner, was appointed to prepare a program and select a time and place for holding the next meeting.

Dr. W. J. Moore was appointed delegate and Dr. Geo. H. Sumner, alternate, to the Pinehurst meeting in April.

Dr. Fred R. Taylor, of High Point, councillor for the eighth district, and head of the Periodic Health Examination work in the state, was present and made a splendid address. He spoke before the Kiwanis Club at night.

---

DR. WILBURT C. DAVISON, Dean of the Medical School of Duke University, spoke to the students of Davidson College, Davidson, N. C., March 29th on "Medicine as a Life Work."

"The old game of bluff and bunk won't do in medicine," he told his audience, which included more than 200 Davidson students who are considering the medical profession as a field for life-work.

"The bluffer—the man who is afraid to admit that he doesn't know—makes a dangerous physician. Sometimes his unwillingness to admit a lack of knowledge proves disastrous for the patient. Work, enthusiasm, health, a sense of service, and intellectual curiosity are all necessary for success in medicine, but intellectual honesty should head the list of primary requirements."

---

SURRY COUNTY MEDICAL SOCIETY held its quarterly session at Hotel Elkin March 13th. Dr. J. L. Woltz, of Mount Airy, president of the society, presided over the business part of the session. Taking part in the discussion of subjects of outstanding interest to the medical profession were Drs. E. C. Ashby, of Martin Memorial Hospital, Mount Airy; H. Bernard, of Pinnacle, and R. C. Mitchell, of Mount Airy. Dobson was decided upon as the place of meeting in June. Visiting physicians from other counties were Dr. Fred Hubbard, of the Wilkes Hospital, North Wilkesboro; Dr. H. J. Weaver, of Brooks Cross Roads; and Dr. T. W. Share, of Boonville.

---

DR. RUDOLPH TEUSLER, head of St. Luke's International Hospital at Tokio, is visiting in Richmond, Virginia, his former home. Dr. Teusler has been in Japan for 27 years, and his observations have convinced him that the people of the United States should cultivate the close friendship of the Japanese "for economic, moral, spiritual, ethical and common-sense reasons."

---

DR. WILLIAM D. MEEKS, 67, who practiced medicine in Nelson County, Va., 43 years, died at his home, "Smug Dale," Nelson county, March 26th, of heart trouble. He was the father of William E. Meeks, commonwealth's attorney for Amherst county.

---

DR. TOM A. WILLIAMS, noted Scotch psychologist and physician, will be with the Duke University Summer School faculty this summer, it is announced by Dr. Holland Holton, director of the school. Dr. Williams, who is a close friend of Dr. William McDougall, head of the Duke department of psychology and one of the best known men in his field, is regarded as one of the outstanding neurologists in the world.—Special to Greensboro News, March 22.



A NEW ATTACK UPON SLEEPING SICKNESS is to be launched in the Belgian Congo, in Africa, by Dr. Warren K. Stratman-Thomas, research pharmacologist for the University of Wisconsin.

Dr. Stratman-Thomas, one of 75 American scholars, scientists and artists who have been awarded extension study scholarships abroad by the John Simon Guggenheim memorial foundation, will go to Stanleyville, in the Belgian Congo.

DR. WILLIAM HOMER SMITH, professor of physiology in the medical school of the University of Virginia, has received a fellowship from the John Simon Guggenheim Memorial Foundation which will enable him to spend next summer abroad in research.

James P. Baker, of Hallsboro, Va., a fourth-year medical student, will accompany Dr. Smith to assist in the investigations.

DR. IVAN PROCTER has returned from New York City, where he spent several weeks working on the Gynecological and Obstetrical service of Dr. John Osborn Polak at Long Island College Hospital.

DR. I. THURMAN MANN, High Point, N. C., member of the National American Legion hospitalization organization and former national vice-commander, addressing the Legion luncheon club of Winston-Salem March 30th, declared that North Carolina should have a veteran's hospital for caring for surgical and mental patients.

CAROLINA GENERAL and MOORE-HERRING HOSPITALS and the organization of the WILSON CLINIC have consolidated; the hospital will be known as the Memorial Hospital of Wilson, N. C. It will occupy the Carolina General Hospital Building.

DR. FRANK R. SHARPE has been elected president of the St. Leo's hospital staff for the coming year. Dr. Allen C. Banner, secretary-treasurer. The retiring officers of this organization are Dr. C. E. Moore and Dr. Russell O. Lyday.

Thirty-four leading Asheville physicians will be associated with the ASHEVILLE PHYSIATRIC INSTITUTE, the new hospital which

will occupy the buildings of the old Hillcrest Manor, will be opened for patients in about two weeks.

THE GUILFORD COUNTY MEDICAL SOCIETY held a regular meeting April 5th.

Dr. C. A. Julian discussed the treatment of pneumonia while Dr. R. A. Schoonover presented a case of unusual and visible circulatory disturbance.

DR. EDWARD THORNE HARRISON announces the opening of his office for the general practice of medicine at 412 Commercial National Bank Building, High Point, N. C.

DR. ZENAS FEARING, JR., died at his home in Elizabeth City, North Carolina, March 17. He was born in 1874, and was a graduate of the University College of Medicine, Richmond, in the class of 1901.

#### DR. E. B. QUILLEN

Dr. E. B. Quillen's death was announced in this journal last month. Further particulars are recorded below:

Coming as a young man from his native state, Delaware, Dr. Quillen's first service was as superintendent of the Atlantic Coast Line Railroad Hospital at Rocky Mount, and later he was promoted as assistant to the chief surgeon.

After serving in this capacity for several years, he decided to locate for the practice of his profession, at Rocky Mount, where he had made a host of friends. Unused to this type of work and finding it taxing to his strength he decided to engage in special practice. With this view he spent more than a year at the Mayo Clinic, confining his studies to the eye, ear, nose and throat.

Completing this course he returned to Rocky Mount and in partnership with Dr. J. J. W. Looney. They built a large and successful practice limited to this line. They merited and received the confidence and esteem of the profession and the public and soon surrounded themselves with a patronage and clientele which insured the most hopeful success. The death of Dr. Quillen is a distinct loss to the profession and to the community which he served.

He was thorough and proficient in his profession, temperamental and amiable to a high

degree which gained him the confidence of the profession and the esteem and affection of his friends. He died in his forty-eighth year in the full-flush of manhood, respected, honored and loved by all who knew him and had interpreted the nobility of his character and the virtues of his life.

The remains were sent to Harrington, Del., where the final rites were held and interment made.

Funeral services were conducted at the Church of the Good Shepherd, where the remains lay in state throughout the day.

Emile B. Quillen was born at Harrington, Delaware, June 26, 1881; took pre-medical courses at the University of Delaware, and received the degree of M.D. from the University of Maryland in 1904; was intern at the University of Maryland Hospital from 1903 to 1905, and at the Atlantic Coast Line Railway Hospital, Rocky Mount, North Carolina, from 1905 to 1908; was assistant chief surgeon for the Atlantic Coast Line Railway Company from 1908 to 1911, and engaged in private practice in Rocky, North Carolina, from 1911 to 1916. He entered the Mayo Foundation as special student in Laryngology and Rhinology, June, 1916; his services included laryngology and rhinology, six months; and laryngology, oral and plastic, seven months. He left the Foundation in August, 1917, and established a practice in diseases of the ear, nose and throat at Rocky Mount. During the war, he was on the Medical Advisory Board of the sixth district, North Carolina. He was a member of the North Carolina State Medical Association, the Southern Medical Association, and the Association of Resident and Ex-Resident Physicians of the Mayo Clinic. He married Miss Leila Owings, October 18, 1910.

---

Resolutions offered by Dr. I. P. Battle, and adopted by a called meeting of Nash County Medical Society, March 14, 1928:

Mr. President and Fellow Members:

We have met tonight to pay tribute to the memory of a friend and colleague. In the death of Dr. E. B. Quillen, we, who were closely associated with him are conscious of a deep personal loss; more than that we recognize a great community loss.

Graduating from the University of Maryland in 1904, his professional life for a period

of twelve years before taking up the specialty he chose included work in pathology, bacteriology, surgery, x-ray, and the numerous ramifications of the medical sciences into which one is led who does general practice for five years.

What a wonderful ground-work upon which to build a specialty! He entered upon the duties of his specialty competent not only to care for the sick as a general practitioner but capable of working intelligently in some of the other special fields of medicine. But from this time on he was in the truest sense a specialist. Bending all his efforts of work and study to this one branch of medicine, he hewed straight to the line, never deviating by a hair's breadth from the work he had chosen.

His earnestness and untiring efforts soon inspired his co-workers with the utmost confidence in his ability; a confidence that time has not shaken.

The memory of his constant courtesy, the willingness with which he lent us his aid, the deep interest he manifested in each individual patient will remain with us always.

Our finite minds can not grasp the meaning of his death in the prime of life at the height of his usefulness. We can only bow our heads in humble submission to the will of Him who doeth all things well.

—Special Correspondence from Rocky Mount.

DR. JOSEPH HENRY PARKER, 53, physician in Surry and the surrounding counties, died at his home in Dendron, Virginia, March 29th, after a brief illness.

He was born in Surry county, the son of the late Mr. and Mrs. John Robert Parker. He received his academic education in the schools of Berkley, and in 1904 was graduated with the M.D. degree from the Medical College of Virginia.

DR. ALEXANDER G. BROWN, JR., of Richmond, Virginia, has just returned from a visit of several months spent in England and upon the continent.

DR. JOHN S. BLAIR, 80, died at his home in Churchville, Augusta county, Virginia, March 31st.

Dr. Blair was graduated from the Kentucky School of Medicine in 1875, and had practiced medicine in Augusta county for fifty years. One of the five surviving children is Dr. John R. Blair, of Richmond.

## REVIEW OF RECENT BOOKS

**PRACTICAL DIETETICS** for Adults and Children in Health and Disease, by Sanford Blum, A.B., M.S., M.D., Head of Department of Pediatrics, and Director of the Research Laboratory, San Francisco Polyclinic and Post Graduate School. Third Revised and Enlarged Edition. Philadelphia, F. A. Davis Company, Publishers, 1928. \$4.00.

The arrangement is after a pattern very convenient for clinical use. Disease conditions are taken up alphabetically; and, from anemia to urticaria, general principles of feeding and diet lists are given.

Special attention is paid, naturally, diabetes and obesity. The supposed special influence of liver in pernicious anemia is mentioned, but briefly.

To those who need to, or wish to, eat by a book the volume will prove of unusual interest.

**AN ELEMENTARY TEXT BOOK OF GENERAL MICROBIOLOGY**, by Ward Giltner, Professor of Bacteriology and Hygiene, Michigan State College. 99 illustrations. Philadelphia, P. Blakiston's Son & Co., 1012 Walnut St., 1928. \$3.50.

The reasoning behind the choice of the term "microbiologist" are set forth thus:

"The *bacteriologist* strictly speaking should confine his studies to the bacteria. But since a student of bacteria can scarcely avoid concerning himself with the other microbes, it is perhaps better, certainly more correctly descriptive, to refer to him as a *microbiologist*. The words *microbiology* and *microbiologist* are fixed in the literature, but, obviously, they mean, strictly defined, respectively, 'small biology' and 'a small biologist.' We submit that the word *microbiology* be employed as a term relating to the 'biology of the small forms of life.'"

We are prepossessed in favor of a teacher who chooses accurately the words which express his ideas; pretty surely it means that he has ideas to express. A perusal of much of the text assures that such is the case in this instance.

All of us must be interested in the chapter on The Relationship of All Living Things to

Each Other. The accompanying chart stimulates philosophic speculation of the most alluring kind, and a desire to see how the author has set worth his argument for its support.

Immediately the attention is arrested by the plainness and directness of the presentation. Some may object to having matters explained unnecessarily; our vote goes for making any statement as plain as is possible. The description of methods used in all bacteriological work will serve to increase the acquaintance of the intelligent public with medical problems of the greatest importance.

The chapter heads: bacteria; yeasts; molds; protozoa; cell function; microbial food; physical, chemical and biological influences on microbial life; microbes in air, water, soil, dairy products, etc.; infection, immunity and susceptibility; and microbial diseases of plants—give an idea of the scope of the work.

Not only doctors of mankind, other animals and plants, but all who are interested in man's diseases and his place in nature will find here, set forth in a plain way, much that will improve and delight his understanding.

**ALUMINUM COMPOUNDS IN FOOD**, Including a Digest of the Report of the Referee Board of Scientific Experts on the Influence of Aluminum Compounds on the Nutrition and Health of Man, by Ernest Ellsworth Smith, Ph.D., M.D., Fellow and Former President, New York Academy of Sciences, Fellow of the New York Academy of Medicine, etc., etc. Paul B. Hoeber, Inc., New York, 1928. \$7.00.

The title and subtitle attract our attention immediately, for we have not been accustomed to thinking of aluminum *as* food or *in* food; but rather of food *in* aluminum. We are rather astonished to find a volume of near 400 pages on this subject from so high a source.

Chapters are as follows: The Natural Occurrence of Aluminum in Food; Added Aluminum Compounds in Food; History and Research; Researches of E. E. Smith, 1898-1902; The Influence of Aluminum Com-



pounds on the Nutrition and Health of Man; Litigations Relative to Baking Powders Containing Salts of Aluminum; The Relation of Aluminum Salts to Plant Life; The Action of Salts of Aluminum on Unicellular Animal Life and on the Isolated Cells and Tissues of High Animals; The Solubility in the Gastrointestinal Tract of the Aluminum Compounds of Baking Powder Residues; The Action in the Alimentary Tract of Food Prepared with S. A. S. Baking Powders; Evidence as to the Absorption of Aluminum; The Effects of Aluminum Compounds When Administered Subcutaneously or Intravenously; Experimental Observations Upon the Influence of Food Prepared with Baking Powder Containing S. A. S. Upon the Growth and General Well-being of Animals and Man; Discussion.

So far as we can see the treatise is written largely to disabuse the public mind through doctors and other scientists of any idea that aluminum is harmful in any quantity likely to be present in food.

---

HANDBOOK ON DIET, by Eugene E. Marcovici, M.D., Formerly Assistant to Professor von Noorden in Vienna; Instructor, Post-Graduate Hospital; Assistant Attending Physician, Roosevelt Hospital, Out-Patient Department, New York. Philadelphia, F. A. Davis Company, Publishers, 1928. \$3.50.

This volume has all the statistical information about foods, the physics and chemistry of food preparation and their assimilation which makes up much of metabolism, all set forth in an unusually attractive style. It does not fall into the rather common error of neglecting to seriously consider appetite, palatability, and personal preference.

---

SAFEGUARDED THYROIDECTOMY AND THYROID SURGERY, A Manual Designed as a Practical Guide for the General Surgeon, by Charles Conrad, Miller, M.D., with fifty-two illustrations. Philadelphia, F. A. Davis Company, Publishers, 1928. \$3.75.

The author declares his object to be "to emphasize certain phases of diagnosis and treatment which have been neglected or ignored by other writers." He is not in favor of arranging thyroid cases in many symptom groups.

The direct surgical treatment of exoph-

thalmos is gone into elaborately. Great emphasis is placed on focal infections, particularly of the teeth, of which some astonishing drawings are shown.

Some of the accounts of tests to confirm diagnosis carry little conviction. The statement is made that the best guide for the surgeon in the diagnosis of thyroid disease is the heart. We remark that it would be well for all who do thyroid surgery to work in close co-operation with good medical men, and especially is this true of one who thinks (p. 59) "valvular lesions are pre-eminent in the minds of cardiologists."

Subsequent chapters are headed: treatment of thyrocardiacism, medical treatment, the evolution of thyroid surgery, modifications in technic, technic of safeguarding operation, collapse of trachea, safeguarding parathyroids, etc.

---

The Use of Symptoms in the DIAGNOSIS OF DISEASE, by Hobart Amory Hare, B.Sc., M.D., LL.D., Professor of Therapeutics and Diagnosis in the Jefferson Medical College of Philadelphia. Ninth Edition, thoroughly revised; illustrated with 124 engravings and 4 plates. Lea & Febiger, Philadelphia, 1928. \$5.50.

The very name proclaims that this is a book which pays proper attention to bedside symptoms. The approach to diagnosis is a rational one taking well into account the value of the methods which made Sydenham and Louis great diagnosticians before the birth of the methods on which many now rely for three-fourths of their diagnoses.

The general expression, shape of head, appearance of feet and legs, gait, changes in voice, coating of tongue, feeling and counting the pulse, causes of headache, the kinds of pain—such matters as these are given most consideration.

It is a valuable book in that its influence will tend to fix again attention on clinical pictures and deflate the present inflated values of strictly laboratory procedures.

---

THE MECHANICS OF THE DIGESTIVE TRACT, An Introduction to Gastro-enterology, by Walter C. Alvarez, M.D., Associate Professor of Medicine, University of Minnesota (The Mayo Foundation), with one hundred illustrations. Second Edition. Paul B. Hoeber, Inc., New York, 1928. \$7.50.



The approach is easy and engaging yet appealing to the reason. The work goes back, insofar as we now know, to first causes. The unexceptionable basic point is made that, though the myogenic view of rhythmic contraction is supported by all the evidence, the muscle and nerve work together so intimately that it is foolish to stress the point.

A rational explanation of the "why" of Auerbach's plexus and the extrinsic nerves is given. So practical and homely a question as to why food goes down the bowel is given a whole chapter. Reader, do you know the answer? It is by no means simple in the opinion of the author.

The crushing power of the jaws and teeth, the swallowing power of the esophagus, cardiospasm, and differences in stomach wall irritability provide instructive discussion. The movements of the stomach are given a chapter as are hunger contractions and the pain of ulcer. Chapters on the *modus operandi* of gastro-enterostomy, and on the pylorus and duodenal cap will prove of especial interest to clinicians.

The remainder of the canal and its accessories are treated of with equal care.

The work is commended to all doctors who want information on the digestive apparatus based on experiment, observation and rational deduction, rather than legendary misinformation.

---

**DISEASES OF THE INTESTINES**, Including the Liver, Gall-Bladder, Pancreas and Lower Alimentary Tract, by Anthony Bassler, M.D., F.A.C.P., Ex-chairman of the Section of Gastro-enterology and Proctology, A. M. A.; Honorary Member of the Southern Gastro-enterological Association, etc., etc. Third edition, revised and enlarged; illustrated with 199 text engravings and 78 full-page half-tone plates (with 105 figures), some in colors. Philadelphia, F. A. Davis Company, Publishers, 1928.

The author says that it has been his intention to keep the text as clinical and close to actual cases as possible. In this volume is added a discussion of diseases of the liver, gall-bladder and pancreas.

Anatomical and physiological considerations having direct clinical bearings are treated of in the discussions of disease conditions of the several organs.

With the statement, "chronic appendicitis is the most common of all abdominal [path-

ological] conditions," we can in no wise agree, notwithstanding the elaborate and entertaining argument for it.

On the whole the idea of putting out a book which will be of clinical use is well carried out.

The illustrations are profuse and illustrative.

---

**DIABETES, Its Treatment by Insulin and Diet—A Handbook for the Patient**, by Orlando H. Petty, A.M., M.D., F.A.C.P., Professor of Diseases of Metabolism, Graduate School of Medicine, University of Pennsylvania. With illustrations and tables. Fourth revised and enlarged edition. Philadelphia, F. A. Davis Company, Publishers, 1928. \$2.00.

This edition has been revised both from the viewpoint of bringing it completely up to date and of making it plainer to the understanding of the patient. It nowhere conveys the impression that it can be substituted for the physician's care, but always supplements and clarifies.

---

**INTERNATIONAL CLINICS: Volume 1**, thirty-eighth series, 1928. Philadelphia and London, J. B. Lippincott Company, 1928.

## CONTENTS

### DIAGNOSIS AND TREATMENT

Visceroptosis, Dr. John Phillips, Cleveland, Ohio; A Quarter of a Century of Light Treatment at the London Hospital, Dr. W. J. O'Donovan, London, England; A case of Vertebra Plana (Calve), Dr. H. J. Panner, Copenhagen, Denmark; Treatment With Sanochrysin in Vardaasen Sanatorium, Asker, Norway, Dr. Alb. Tillisch, Asker, Norway; Tularaemia, Dr. J. H. Garberson, Miles City, Montana; The Change in the Clinical Picture of Syphilis as a Result of Augmentation of Vascular and Nervous Symptoms and the Cause Thereof, Dr. James Strandberg, Stockholm, Sweden; The Red Cell Sedimentation Reaction in Some Acute Infectious Conditions and in Diseases of the Joints, Dr. Alf Westergren, Stockholm, Sweden; Some Observations on the Development of Human Motility, Dr. Georg Schaltenbrand, Hamburg, Germany; Polymucositis: Its Diagnostic Importance and Its Relation to Systemic Diseases, Dr. J. Epstein, New York City.

### MEDICINE

Intestinal Amoebiasis and Syphilis in the

Same Patient: Discussion of Newer Methods of Treatment of Amoebic Dysentery, Dr. Lewellys F. Barker, Baltimore, Md.; Chronic Epidemic Encephalitis, Dr. Knud H. Krabbe, Copenhagen, Denmark; Bacterial Heart Disease, Dr. William D. Reid, Boston, Mass.

#### PAEDIATRICS

Clinical Teaching of Paediatrics at Paris, Dr. P. Nobecourt, Paris, France; Work at the Sachska Children's Hospital at Stockholm, Dr. Harold Ernberg, Stockholm, Sweden.

#### SURGERY

Uterine Fibroids; Bleeding from the Uterus (Metrorrhagia), Dr. John B. Deaver, Philadelphia, Pa.; Operations and Demonstrations at the Chirurgische Universitate Klinik, Frankfurt-Am-Main, Dr. Victor Schmieden, Frankfurt-am-Main, Germany; Surgical Demonstrations at the Kommunehospital of Copenhagen, June 20, 1927, Dr. P. N. Hansen, Copenhagen, Denmark; The Clinic of the Otogenous Cerebral Abscess Illustrated by Cases at the Rigshospital and St. Joseph's Hospital, Copenhagen, Dr. F. Norsk, Copenhagen, Denmark; Classification and Indication for Surgical Treatment of Goitre, Dr. Herbert A. Black, Pueblo, Colorado.

#### TRAUMATIC SURGERY

A Ball Splint for Hand Fractures, Dr. George G. Davis, Chicago, Ill.; Treatment of the Fractures of the Long Bones, Dr. Alfred H. Whittaker, Detroit, Mich.; The Use of Pedicle Grafts in Traumatic Surgery, Dr. Ralph Colp, New York City.

#### OTOLARYNGOLOGY

Tonsillectomy by Use of an Electrically Lighted Mouth Gag, Dr. C. W. Henney, Portage, Wis.; Otolaryngological Clinic of the Middlesex Hospital, London, Dr. F. J. Clemenson, London, England.

#### OPHTHALMOLOGY

Disturbances of the Autonomic Nervous System by Eye Stress, Dr. E. L. Jones, Cumberland, Maryland.

#### PATHOLOGY

Specimens of: I. Foetus Papyraceous; II. Premature Separation of a Malplaced Normal Placenta; III. Rupture of Uterus, Dr. Walter F. Harriman, Philadelphia, Pa.; A New Method for the Rapid Microscopical Diagnosis of Tumors, Dr. Leonard S. Dudgeon and C. Vincent Patrick, London, England.

#### 1927 MUTTER LECTURE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

The Pathogenesis of Gastric and Duodenal Ulcers, Dr. E. Starr Judd, Rochester, Minnesota.

#### MEDICAL HISTORY

The Renaissance, Dr. John Rathbone Oliver, Baltimore, Maryland.

#### MEDICAL QUESTIONNAIRES

#### PROGRESS OF MEDICINE DURING 1927

Collation, Dr. Henry W. Cattell, Philadelphia, Pa.



## CHUCKLES

### JUST A CRADLE

The young married couple entered the furniture store.

Young husband (bashfully)—“We want to look at a bedroom suite for our new home.”

Salesman—“Yes, sir. Do you want twin beds?”

Young wife (blushing)—“Heavens, no! Just a small cradle!”—*Lincoln County News*.

Film Actress (to husband)—Cook has taken an intense dislike to you, dear. I do hope I shan't have to get rid of you!—*Passing Show*.

“What did father say when you told him you were going to take me away from him?”

“He seemed to feel his loss keenly at first, but I squared things with a good cigar.”—*Lincoln County News*.

Judge—“I can't understand a big husky man like you beating a poor, frail little woman like your wife!”

“But she keeps nagging and taunting me until I lose my temper!”

“She yells, ‘Hit me! I dare you! Go ahead! Just hit me once and I'll have you dragged up before that bald-headed old fossil of a judge.’”

“Case dismissed.”—*Lincoln County News*.

### RINGING SARCASM

Bellhop (after guest had rung for ten minutes): “Did you ring, sir?”

Guest: “No, I was tolling. I thought you were dead.”—*Red Dog*.

### THE MOTE AND THE BEAM

Disgusted Lady—Does your mother know you smoke?

Small Boy—Does your husband know you speak to strange men in the street?—*Ghost*.

### “HE SAID.”

“Where can I reach your husband tonight?”

“I haven't any idea. He said he was going down to the office to finish up some work.”—*Judge*.

Some day an exasperated pedestrian is going to wrap himself in barbed wire and give some motorist the surprise of his life.—*Philadelphia Inquirer*.

O, BROTHER, WOULDN'T YOU'VE LOVED TO 'A' BEEN THERE?

“Hello,” called a feminine voice over the telephone, “is this the Humane Society?”

“Yes,” replied the official in charge.

“Well, there's a book agent sitting out here in a tree teasing my dog.”—*Exhaust*.

### COULDN'T REMEMBER ONE OFF-HAND

Ed.: “I guess you've been out with worse looking

Ed.: “I say, I guess you've been out with worse looking fellows than I am, haven't you?”

Co-ed.: “I heard you the first time. I was just trying to think.”

No answer.

“I am I haven't you?”



## FROM THE LATEST MEDICAL LITERATURE

### THE STATUS OF PATHOLOGY

(An address delivered before the British Pathologists Association at their Annual Meeting)

By

Charles Powell White, M.D., Camb., F.R.C.S., Eng.  
*Lancet*, Feb. 25, 1928, 214:381-383

The author, president of the British Pathologists Association—an organization which has been in existence for only a year, reviews the changed and changing position of the pathologist as a consultant in clinical medicine. It is most interesting to note that many of the problems that this young organization is facing are identical with those confronted by the American Society of Clinical Pathologists at its inception some five years earlier and that much of the discussion contained in this article might almost be imagined to be portions of discussions among the membership of the American organization in its earlier days.

He early realized the evils brought about by some of the hospitals and "diagnosis societies" obtaining an unlimited number of pathological examinations for a low fixed subscription fee and saw the inferior position in which the pathologist was placed as related to his physician or surgeon colleague to the extent that the relative importance put upon their opinions was in more or less direct proportion to the size of the fees charged.

*Status of Pathology as a Science:* Some academic pathologists regard the term clinical pathology as a misnomer and claim that those who practice this branch of medicine should not term themselves pathologists. The difference between academic and clinical pathology is no greater than that between pure chemistry and applied chemistry or between pure and applied mathematics. Academic pathology is a pure science and is concerned with the changes that take place in diseased organisms while clinical pathology consists in the application of this science to the diagnosis and treatment of disease in individual patients. The term is a very suitable one be-

cause it clearly expresses what it means—namely, the application of pathology to clinical practice. It is an old established term with a definite meaning and it would be difficult to find a better one.

*Status of those who practice Pathology:* Clinicians have tended to regard pathology somewhat with contempt as a subject fit only for the most junior member of the staff or even to regard pathologists as their servants rather than as their colleagues. Whilst there are some tests which are more or less mechanical and the results of which are not open to doubt, there is a greater number of cases the investigation of which requires judgment and experience in addition to technical ability. This is particularly true of the histological diagnosis of tissues. While the actual preparation of sections is a purely mechanical procedure, judgment and experience are required in the selection of pieces for examination, and still more in the interpretation of the sections when cut. In all branches of clinical pathology doubtful or equivocal results are apt to occur and the pathologist has to make use of his experience in interpreting them—an opinion formed on the basis of experience.

*Improving Position of Pathologists:* Clinicians are more ready of late years to recognize pathologists as colleagues of equal standing. The British Medical Association has passed some very important resolutions for improving the conditions of pathological practice and a year ago this organization (British Pathologists Association) was formed. A rational schedule of fees has been adopted. As an increasing number of pathologists are called for, more are turning to the practice of this line. A pathologist has to be a morbid anatomist, histologist, bacteriologist, biochemist, and so on in addition to his qualifications as a medical practitioner. In most cases he is working alone as, outside of teaching centers, there is little opportunity for team-work in clinical pathology and consultation with fellow pathologists. For this reason it is essential that the



pathologist should have adequate post-graduate training and experience in all branches of pathology in addition to that regarded as sufficient for the general medical student. Clinical pathology involves not only the examination of specimens sent to the laboratory but especially consultations. The ideal procedure for all concerned would be that the pathologist meet the patient and clinician in consultation when he should decide what tests it is advisable to carry out and should express an opinion after performing these tests. This procedure is not always necessary or practicable and a large part of the practice will always consist in the examination of specimens sent to the laboratory.

**Types of Laboratory:**

1. **Private laboratories** ~~used~~ *used* by the pathologist.
2. Laboratories belonging to **associations of medical men.**
3. Hospital laboratories.

4. University laboratories.
5. Commercial laboratories.
6. Public-health laboratories.

The last two may be dismissed as wholly unsuitable. Pathological practice should not be subject to the control of commercial firms any more than clinical practice. Public Health laboratories should be confined to public health work and should not undertake clinical pathology. Private laboratories owned by the pathologist present no difficulties and in some respects are the ideal form of laboratory. (Note. Under this classification in this country would fall the list of approved clinical laboratories recently published in the *J. A. M. A.*, 90:981, March 24, 1928.) But most work is carried on in hospital and similar laboratories by the pathologist attached to the laboratory and there he should have a seat on the medical board and be allowed the use of beds for his own patients.

*L. C. Todd, Charlotte, N. C.*



# *North Carolina Medical Society*

## **PINEHURST NORTH CAROLINA**

*Is Yours April 30, May 1, 2, 3*

The Society's officers have insured the value of the convention to its members professionally.

Pinehurst contributes to this, a home organization, those comforts and pleasures for which it is nationally famous:—

A hotel noted for its luxury of service and table in a country famous for the excellence of its hostelries.

Outdoor sports at their best—golf, riding, tennis, trapshooting, archery, etc.

Indoor entertainment that completes fittingly the pleasure of these four days—movies, dancing, teas, card parties, concerts.

*Early reservations will insure your comfort and help the management arrange to the satisfaction of all*

**CAROLINA HOTEL**

**E. G. Fitzgerald, Manager**

**Pinehurst, N. C.**

# Southern Medicine and Surgery

VOL. XC

CHARLOTTE, N. C., MAY, 1928

NO. 5

## ADDRESS OF THE PRESIDENT of the Medical Society of the State of North Carolina Seventy-fifth Annual Session, 1928

JOHN T. BURRUS, M.D., High Point, N. C.

Nothing is to be more highly prized by any physician in North Carolina than the office which, because of your suffrage, I occupy today—that of president of the Medical Society of the State of North Carolina. No one can appreciate it more, and no one is, or can be, more keenly conscious of the obligation and responsibility which it entails.

My endeavor has been to evince an appreciation, not so much by my lips as by a continuous service. Mistakes I have doubtless made, but I have at least the consolation and assurance of knowing that I have made an honest, earnest effort to perform the high duties of the office. My heart is right in this matter, and though my head may not at all times have been clear, I take a degree of consolation and comfort from the scriptural passage: "As a man thinketh in his heart, so is he."

The law of compensation by which Nature's balance sheet is made and kept has given me a year of intense interest, immeasurable profit, and a hitherto unthought-of opportunity for my personal education. Sections of the state formerly thought of in a sporadic way have come to be known to me. Industries that were hazy have come to be clear and definite. People heretofore strange and worshipped from afar have rubbed my elbows. The state has been presented to me through the eyes of the plutocrat and pauper, taxor and taxee, saint and sinner, optimist and pessimist, materialist and idealist. Capital's fight has been thrust upon me. Labor's cry for a squarer deal "for the man nobody knows" has been ringing in my ears. Statesmen with fearless faith and cautious counsel have advised with me. Politicians, professional and lay, whose selfish ends, in their

opinion, justify sinful, soulless, mercenary means, have volunteered advice. Insanity, collective insanity, which the state like a thrifty, thoughtful mother is endeavoring to care for, has shown me itself in all its horror and all its need. Epilepsy and its meaning, feeble-mindedness and the havoc it has played, have left a picture so clean-cut that it will go with me to my grave. Crime, youthful crime, committed by early adolescence, sick and made sinful by disease, sticks its malicious tongue in its cheek, leers and frowns and with ribald laughter shrieks out, "Here am I, the product of your failure and that of your profession!"

The state's million of children growing into men and women with potentialities for good or evil, marred or moulded for might and power by the foresight of legislatures passed and gone, have filled my mind as never before with the intricate problems which, if one would be a really constructive man of medicine, he must know. In going from one end of the state to the other, blessed as I have been by the annihilation of distances which the state's highways have brought about, visiting cities, large and small; feasting my eyes on the broad acres of tobacco, cotton and grain; hearing the buzz of spindles and of farm machinery, the whistle of locomotives, the honking of automobiles and the whirr of flying machines, I find myself astounded at the realization of the fact that all of this has come in practically half a century.

About sixty years ago North Carolina was a desolate waste of tangled weeds, without government, pauperized, "bled white of its man-power," inhabited by a people partly master and partly slave; women in widow's

weeds, mothers with breaking hearts, patriots bound and gagged by the power and military rule of a conquering people. Is there a miracle in Holy Writ more wonderful than the progress between the then and the now? Can you imagine a greater privilege than that which has it been mine to observe in all this in this past year? Can you imagine a finer lesson in citizenship, civics, sociology, patriotism and medicine?

You, gentlemen, gave me this opportunity, and furthermore, you gave me the privilege of coming in intimate contact with the medical profession of North Carolina. I have seen it individually and collectively, just as it is—the doctor in the city practicing his specialty, feeling secure in the knowledge that the service and assistance in other specialties are his for the asking immediately and always. The surgeon, for example, who, when confronted with the oftentimes perplexing and baffling question, "When to operate?", has the oculist, roentgenologist, neurologist, rhinologist, bacteriologist, pathologist, chemist and internist to give him valuable information and priceless knowledge. They together pass upon the diagnosis, prognosis, and general condition of the patient; and when the operation has been decided upon, the hospital is there as are the operating room, the anesthetist, and the nurse. I have also seen the men in the smaller towns measuring up to the standards inculcated in them by the Class A schools of this country, and I have seen men struggling alone to meet the demands of medicine—without assistance, without confreres, without hospitals, without nurses—practically without anything with which to practice medicine, save conscience, training, self-reliance, energy and resourcefulness.

Having seen it all, the thing I am proudest of is my ability to look the people of North Carolina in the face and say to them conscientiously that the North Carolina doctor can be depended upon. I have found sections in which there is a physician to every four hundred people—that section always holding out every convenience known to modern medicine. I have seen other sections in which there was only one doctor to every four thousand people; and that section, with the exception of good roads and the gray matter, courage and godliness of an isolated, lonesome man of medicine, had nothing with

which to fight disease.

The environment of these two extremes is utterly different, but the diseases that deform, mutilate, and kill the people living there are exactly the same. Is there no way to equalize the problem? Is there no way to bring the state to the realization of the fact that the men who are making the cities, the men who are occupying high places in the affairs of state, in the professions and in the business world are, many of them, born and reared in the blue of the sparsely populated mountains and along the blue of the surging sea? Can we not join hands and hearts in bringing this good state to a realization of its duty to the sparsely populated sections that are within its borders? Can we not impress upon prospective legislators the fact that the man in the country is "a man for a' that" and entitled to protection from preventable diseases?

It was no physician who paid the medical profession its highest compliment. It was one, though, who knew doctors, for he was a victim of tuberculosis. Here is what Robert Louis Stevenson said about us:

"There are men and classes of men that stand above the common herd: the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Heraclean cheerfulness and courage. So that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing."

It is this type of North Carolinian that I am appealing to today. There are less than three thousand of us. If the three million population of the state were equally divided among us, each would have the responsibility of the physical welfare of more than one thousand human beings. How can we meet our obligations to society and to our profession unless we give ourselves unstintedly and



whole-heartedly to the prevention of disease?

Some men say that the prevention of disease brings no pecuniary reward; that the time and money necessary to the preparation of a medical man makes it necessary to spend one's professional days earning what he can in order to live in accordance with the standards of the times and to put by a competence for old age. "He who does only what he gets paid for, gets paid for only what he does." I would not think of attempting to disprove the old adage "the laborer is worthy of his hire"; I would not drop a word or thought that could suggest that medical men are not entitled to the best that life affords; but money comes as a by-product of work well done. Show me a minister of the gospel who gives his days in an intelligent way to the service of his community, and I will show you a minister who will suffer no need when he is placed upon the superannuated list. Show me a lawyer, clean and square, who gives sixty minutes of every hour to doing his work well, and I will show you a happy man with earnings sufficient to care for himself and his family. Show me a physician who intelligently and wisely gives all that is in him to his calling and I will show you a man with comfortable surroundings and with the abiding respect of all those whom he serves.

Lindbergh is but a boy. He began his climb to fame in an air mail car at about two hundred dollars a month. He has earned more in a year than most men accumulate in a life-time. He has spurned millions for vaudeville contracts and millions more for movie royalties. He has refused to commercialize himself and his profession by declining to sit at glass top desks of inventors and corporations. He has put all of his eggs into one basket and has given undivided attention to keeping the *Spirit of St. Louis* on an even keel. And yet money has rolled in to him. He has run away from more millions than any man in modern history, but fortune somehow has simply congealed itself about him at the average rate of one hundred thousand or more a month.

We need to look to the making of a healthy citizenship today so that a healthier people will be born ten or more generations hence. The generations that are to be born will come from the children of today. What can

we as a profession do to improve mankind? What can we do to lessen the people's propensity to starve, steal, slink in the shadows; those haunted by fear, hunted by the police; in the gutter—because of disease? When the multitude came to Christ, the apostles were dumbfounded and urged him to send them away, because there was no food. But Christ had compassion on them. He divided the loaves and fishes among his disciples and bade them give. The more they gave, the more they had to give; and so it is with you and your particular calling.

There is in the death chamber of the penitentiary today a youth who with anxious eyes and unshaven, hopeless face pressed against the prison bars, is before me as I speak;—an overgrown lad incapable of lofty purpose, a lad who has zigzagged his way through society seeking food and the gratification of other cravings, engaged in every kind of crime until, outwitted by the law, he is where he is. He is the product of physical deficiency, ignorance and vice. One of his kinsmen in this generation, however, is a gentleman of fine type. Out of the same soil and the product of the same seed two different men have come; one cursed by physical ailment, the other blessed by physical perfection; one cast down, the other lifted up. In the veins of him cast down is bad blood, freighted with error and physical disease, blood destined to trickle through the centuries, following the lines of least resistance, making ignorance mate with ignorance, crime with crime. Whether this boy should be electrocuted is an open question, but is not his life a challenge to you and to me that we more intently bend our energies to the making of better human machines? This boy has thousands of ancestors. He is descended from hundreds of families. There will be countless other boys and girls—provided he has children—who are going to mate with his kith and kin and produce offspring. If the oak is in the acorn, this boy with his staring eyes and hopeless face, expecting to be pitched headlong into eternity, will becloud the blood stream of the race, provided he has children. There are countless other sons and daughters who are going to mate with and reproduce from that remote heir of his. Other youngsters are going to grow up and contribute something to the progeny of that

boy by indiscriminate mating. The blood of others may make his progeny succeed nobly, or it may be that his will mix with offspring of its kind. If so, failures are in store. Charges on the state will have surely been born.

The generation in which this young man's child now lives holds a thousand and more whose blood will mingle with his two hundred and fifty years from now. The boy of 2178 is going to have in him the blood of more than two thousand different family strains. He will represent a cross section of society—descendants of lawyers, doctors, engineers, firemen, merchants, laborers, soldiers, preachers, tramps and crooks. Should we not be concerned about this boy and his heirs, as well as the two thousand or more whose blood is going to mingle with his and who are today and tomorrow playing around somewhere? We cannot endow the far-away children and heirs of this convict awaiting electrocution except by endowing the whole generation to which his children and your children belong. It were well that we stop and listen to the pregnant words of that great poet, philosopher and anatomist, Oliver Wendell Holmes, who, when asked when the training of a child should begin, wisely replied: "Two hundred and fifty years before birth."

With everything that medicine can do for the making of physical perfection, nothing is more important than giving due attention to serious educational enlightenment to those that are to marry and reproduce their kind. Make as much money as you will, the good that you can do with it compared with the good that you can do in exercising scientific effort in your daily work, looking to the up-building of strong human bodies, is infinitesimal. The state needs you to build its citizenship. Money is but a tool; like the sword and the scepter, it is of little use except in competent hands. You can transmit your skill, but it is the history of money that one generation assembles it, the next separates it, the next dissipates it. Place your reliance on the transmission of your skill in the making of better physical manhood for your state. It is your one grand chance to endow your own descendants with happiness. You cannot know the boys and girls to the right and to the left of your child and this convict's child. You cannot know who will share with

them the bringing into being of human machines ten generations hence.

Think always of the children playing in the cities and the waste places of the state, working in the fields, mills, and shops—children of the rich and the poor, of the righteous and the erring—and in God's name have compassion on them. Give them your loaves and your fishes. When your own two-year-old reaches manhood one of these may shine his shoes, or your boy may shine his; another drive his car or your boy drive his. Your boy will flirt and dance with others as was done by you and me. Then one day, because of the democracy of compulsory education, out of the mystery of the future will come a girl with shining eyes and luscious lips to lay her hand in your boy's hand "for better or for worse." She may be a waitress, the daughter of blue-blooded aristocracy, or the progeny of a millionaire, or she may be of the slums. We cannot tell but that she will be the offspring of the hopeless convict waiting for his doom. We, ourselves, bear witness to the social changes occurring in this country, and whoever the girl may be, your son will see her as the gift of the gods. And while not yet born, but as inevitable and and resistless as the tide; they will stand at the matrimonial altar to infect their kind and the millions that are to follow.

Unless we as citizens of a state give due consideration to the mating of man, the races of mankind are going backward. Civilization as we have administered it is self-destructive, tending to destroy the very men that build it. Modern invention, instead of improving man's lot, is hastening the hour of his destruction. Biologists tell us that man's brain is not growing; that as a breed of organic beings he is not advancing; that microbial diseases are the by-products of civilization.

We know that heart disease, Bright's disease, diabetes, cancer, degenerative diseases of the arteries, liver and other vital organs are increasing alarmingly. We know that the functional neuroses that affect man's mind and behavior, such as neurasthenia, hysteria, epilepsy, insanity and the multiform minor mental nervous derangements of the human system are also increasing. Weaklings, paupers, hobos, imbeciles, are becoming more common, while leadership and genius, great men and first class workmen are decreasing.

We recently called the picked youth of our nation to the colors and found that practically one-third of them were unfit to defend their country, and that audit, as fearful as it is, conveys an under-estimate of true conditions. So far as that audit goes it may well arouse concern as to the physical state of civilized man; but it is not complete until consideration of defects unrecorded which in later life impair efficiency and lower resistance to disease is taken into the picture.

Every physical defect in the human family is a challenge to the medical profession. I beg you to accept it as such. If I were delegated as an evangelist to prepare for war against disease I would preach the fact that in order to see and appreciate excellence one must oneself have struggled for it; that he who has never striven to surpass himself surrounds himself with the shoddy, the second-rate, and the cheap. I would preach that "By what judgment you judge, you shall be judged." I would preach that in selecting our preferences we pass judgment on ourselves; that shirking the effort necessary to real achievement is responsible for the practice of quackery; that the standard of living applies, not to what one wishes to possess, but to what one is willing to pay for in order to acquire the right kind of possession; that life has to do with quality, not quantity; that knowledge and training bring a new reverence for the real and the true; that respect for the excellent is possible only to a mind that has learned to recognize, appreciate, and practice excellence. If I had to formulate a simple creed by which a medical man may best order his life and discover that which an intelligent mind may reverence and practice, it would be, in the recognition of worth.

When we emphasize excellence, good workmanship, sincerity, ability, virtue and wisdom, we emphasize the difference between superiority and inferiority. Lose sight of the distinction of worth as a social necessity, and all values decline to the level of mediocrity. Our daily choices determine what we ourselves become, and the total of ideals and ideas diagnose the particular type of men we are.

Our worth depends upon our capacity to plan, upon the way we complete each little problem that comes to us in the day's work, and upon our conscience as citizens of our

communities. It is what we give to the world, not what we get, that counts. Failure to report every communicable disease and to protect the public against it through every means known to medical science is a blemish of the medical cloth. Failure to give ourselves unstintingly to the education of the public, to the desirability of Grade A milk and pure water, is a sin of omission that we must answer for. Failure to vaccinate our own clientele against smallpox, typhoid fever and diphtheria evidences a betrayal of trust which the public places in us. Failure to report cases that the law makes reportable evidences a contemptible ignorance of business methods. Failure to support our Board of Health in all its endeavors to make the citizenship of the state better and cleaner makes a physician appear in the role of a Judas when he betrayed the Christ, who undertook to develop and assist in making a respectable world in which Judas himself could more easily have become a decent and godly man.

If I could direct the medical profession of North Carolina, I would first undertake to give it an armamentarium sufficient to accomplish the purposes for which it is intended. I would compel every practicing physician in North Carolina to maintain an office neat, clean, and always inviting to respectable people. The equipment in that office would be sufficient to carry on the practice of medicine in a scientific way—a real first aid station with a *personnel* trained and at all times available to meet every demand.

Lastly, I would endeavor to crystalize a conscience and ambition looking to perfection and would urge all medical men to do their utmost in the furthering of that knowledge which would stand for the conservation of lives, for the education of citizenship against the ravages of disease and with an effort to teach those who live that in the right living, in the co-operative living, there is increasing physical force reflecting man-power and ability to make the world serve better and love more.

"It is not the weight of the gift or plate

Or the nap on the silk or fur

It's the spirit in which the gift is rich

As the gifts of the Wise Men were

And we are not told which gifts are gold

And which the gifts of myrrh."



## SOME PERTINENT SOURCES OF ERROR IN DIAGNOSIS\*

WARREN T. VAUGHAN, M.D., Richmond, Va.

Even in expert hands clinical diagnoses are never one hundred per cent accurate. No experience in medicine is more chastening than the impartial postmortem scrutiny of the pathologist and his comparison of our ante-mortem hypotheses with the actual facts as they develop during the prosection. When men of unusual ability tell us from their own experience that the clinical diagnoses agree entirely with the pathologic diagnosis in not over half the cases we become prone to philosophize on the helplessness and hopelessness of the man of medicine. But the outlook is not actually as disheartening as these figures would at first intimate. For many of the pathologic diagnoses are purely incidental to the major morbid condition and are of little or no significance as concerns proper or appropriate treatment. Indeed not a few of them could not possibly have been recognized during life. Furthermore while the pathologist finds no difficulty in detecting structural alterations, in many a case when he has closed his kit, his task completed, he is as much at a loss to know just exactly what the patient died of as was the clinician. Granted the findings at necropsy, but just exactly why did this patient die? The answer is not always forthcoming.

The physician who consistently applies the resources of his intelligence to the study of his patient, who subjects his deductions to corroboration, by the application of those functional studies of demonstrated value and who as consistently follows his patient when necessary to the autopsy table the better to apply the lessons learned in his future experience, needs no postgraduate course of instruction and his diagnostic acumen will grow slowly perhaps but steadily.

But aside from relatively minor divergences between the clinical and pathological diagnoses, errors will creep in even among the best in cases where with the information available the correct diagnosis should by all rights have been made. Why? A complete enum-

eration of the reasons is unnecessary but if the man who in one way or another has learned that his previous diagnosis was in error will review mentally the following possible causes and decide to avoid them under similar circumstances he will better his ability.

1. *Deficient fundamental training.* This is remediable.

2. *Restricted clinical experience.* Other things being equal he who has once seen an unusual disease is more likely to recognize it a second time than is he who has never seen it before. Fortunately, in medicine one may profit by the experience of others. The man who keeps abreast of the current literature will have in mind a wider variety of diagnostic possibilities than will he who is content to depend upon the stimulation of those memory cells of his brain which were last called into action during his undergraduate instruction.

I dare say few men have not had the experience of running across a more or less unusual condition within a short time after having read a reference to it or description of it in the current literature. True, the diagnosis is probably often in error and due directly to the fact that, this disease being in mind an attempt was subconsciously being made to prove a similarity, but that the thesis holds can be demonstrated by many experiences. The case of tularemia will serve as an example. A disease unknown before 1921 has since been recognized throughout the United States from California to Virginia and from Ohio to Alabama. Its wide recognition has been dependent upon two factors. First, the original description of the disease was so clear, concise and comprehensive that its subsequent recognition was easy, and second, there were men who read this description and were therefore alert as to its diagnostic possibilities. Tularemia serves as an especially good example because the diagnosis may be incontrovertibly established, thus ruling out the possibility of erroneous reports.

In 1926 we learned that tularemia also exists in Japan and that it had existed there

---

\*Read before the Thirtieth Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.



unrecognized for at least twenty years.

Surely, we have established the case for the broadening of clinical experience by the reading of medical literature.

Only four cases of acute febrile anemia have been described up to 1927. We venture to prophesy that many additional cases will be reported in the next decade but they will be promptly recognized only by those who have read the earlier descriptions.

3. *Superficiality.* And as a corollary we might record unnecessary haste. It has been well said that genius is a capacity for infinite detail. Certain it is that the man with only moderate intellectual endowment who, however, leaves no stone unturned in his plodding search for the truth will often reach quite as far as the brilliant scholar who, transcending convention, leaps past many of the steps of induction or deduction but by some curious power usually arrives at the correct conclusion.

Undoubtedly superficiality is one of the most frequent causes for error in diagnosis. If one does not look for a lesion how can one expect to find it? I once watched a good clinician examine a patient, a man who had been in the hospital for at least two weeks and been seen daily and examined often during this time by the doctor. The question had arisen as to the degree of arteriosclerosis affecting the patient and the physician, determining to study the dorsalis pedis pulsations, felt under the cover for the right foot. It was not there. The patient had been in bed under the doctor's observation for two weeks and the physician had not known that some years previously the right leg had been amputated at the thigh. Thoroughness is an attribute of ability.

4. *Feeble curiosity.* The man who does not recognize the presence of a problem to be solved and is not curious as to the significance of the most minor sign or symptom will grind out his diagnoses by rote and if fortune is with him he will obtain a fair degree of local renown for he makes his diagnoses on the law of probability. The diseases which he meets are the commoner ones and by the laws of chance his percentage of correct diagnoses should be reasonably high, but he will fail utterly in the atypical or involved case where the recognition of an unusual problem must occur and where the examiner is willing,

through curiosity, to follow up the clue in minutest detail.

Even today the physician is sometimes too prone to accept the patient's self-diagnosis. The victim on questioning as to his chief complaints assures the doctor that he is suffering from neurasthenia. Dr. Black, Dr. White and Dr. Green have all three treated him at one time or another during the last year and all have informed him that he has neurasthenia. The physician proceeds with a more or less detailed questionnaire and examination but with the first word from the patient he has already pigeon-holed the presumptive diagnosis and the trend of his examination is perhaps subconsciously in the direction of attempting substantiation of the diagnosis of Dr. White whose ability is recognized. The patient leaves the consultation having obtained the subscription of a fourth doctor to his own diagnosis of neurasthenia and continues his rounds until at last he meets a doubting Thomas who has had a good fundamental training, a wide clinical experience and who is the impersonation of the question mark. Here for the first time the victim learns that he is afflicted with a brain tumor.

Imagination—or better, imaginativeness—will, when properly controlled, carrying its possessor aloft into the aerie places where the vision is broader and the perspective clearer.

5. *Snap Diagnosis.* Barker emphasizes the need for suspended judgment throughout the study of a case. A rather more homely term carrying the same meaning is "keeping an open mind." But neither expression quite covers the situation, for the examiner plays the role not only of judge or jury but also that of prosecutor, defense counsel and especially, as I have brought out elsewhere, that of detective. The passive receptivity intimated in the expression "suspended judgment" is not the true mental state of the medical examiner. While he is receptive to all evidence bearing on the case he is at the same time actively foraging for new evidence, alert for any sign or symptom that must be fitted into the picture. The conception of active investigation must always be coupled with that of passive receptivity.

It is a stimulating by-play to attempt a broad diagnosis immediately upon the entrance of the patient in the room, perhaps

modifying it after a preliminary interrogatory, and to later check this mere guess in the light of subsequent evidence. But there is a definite proneness among some, once having selected a tentative diagnosis to subconsciously, perhaps, attempt to force the subsequent findings into the picture of the tentative diagnosis. This I believe is a frequent source of error. Provisional diagnosis has a distinct value but it should not be used as a foundation upon which to try to build a superstructure into which some of the blocks do not fit.

To avoid this it is often helpful to consciously run over the diagnostic possibilities in one's mind before passing on to the details of examination. Here, volumes such as Barton & Yater's Symptom Diagnosis and Murray's work are helpful in that they refresh one's memory regarding the many possible causes of individual symptoms. French's Index of Differential Diagnosis also serves well in this capacity, but perhaps better as a check-up manual after the examination has been completed. The advantage of cogitating on all of the possible causes prior to examination lies in the fact that one will then be alert for certain unusual confirmatory physical signs.

The following case serves as a good example of diagnostic error due to an attempt to force the establishment of a provisional diagnosis.

A young man in his twenties with recurrent ascites of five years' duration showed the following noteworthy findings on physical examination: ascites, diminished liver dullness, splenomegaly, rather pronounced secondary anemia with some emaciation, slight displacement of the left cardiac border towards the left. The findings above the diaphragm were of particular interest. The heart borders appeared to move but slightly with change of position. The apex impulse was diffuse and of walking-beam type with expansion in the nipple line in the fifth interspace and synchronous retraction in the fourth. Passive motion of the arm was accompanied by a crackling sound under the upper sternum, heard on auscultation.

In view of the findings both above and below the diaphragm a diagnosis was made of Pick's disease, a clinical entity characterized by chronic adhesive pericarditis, chronic

mediastinitis, pleuro-pericardial adhesions, cirrhosis of the liver with perihepatitis and ascites.

In an attempt to confirm the diagnosis of Pick's disease the chest was fluoroscoped. The heart shadow was not particularly enlarged but there was a prominent point two-thirds up the left convexity of this shadow. On deep inspiration the shadow of the left bronchial tree appeared to be pulled downward toward the heart at this point, giving the impression of pleuro-pericardial adhesions. The same distortion of the bronchial shadow on inspiration did not appear on the right. The posterior mediastinum as seen on oblique illumination appeared clear.

At autopsy some time later the condition was found to be one of Banti's disease with atrophic cirrhosis of the liver, splenomegaly and the microscopic splenic picture characteristic of this disease,—marked fibrosis, destruction of splenic pulp and multiple hemorrhagic areas. The heart was normal in size and negative in all respects. The lungs and pleura were quite negative except for one small band of adhesions extending about two and one-half inches down from the left hilus and on to the pericardium. The pericardium contained about 10 c.c. of clear yellow fluid and there were no pericardial adhesions. The small band of adhesions accounted for the fluoroscopic findings. The evidence of slight cardiac hypertrophy was due to displacement of the heart from abdominal distention.

We might summarize this fifth attribute of successful diagnosis as "the scientific attitude." The assemblage of protocol material not for the purpose of proving a point but so that we may study it to learn the truth whatever it may be.

6. *Finality of Conclusion.* If, a final diagnosis having been made and the treatment prescribed, the patient does not respond as he should it is possible that the diagnosis was incorrect or that some abnormality was overlooked. If the doctor whose case puzzles him and who is about to call in a consultant will re-examine the patient as carefully and as thoroughly as on the original examination he will often himself pick up those clues which when found otherwise by the consultant are a source of embarrassment to the first examiner.

A re-examination is always best made with

the same mental attitude as on the first examination. Don't attempt to bear in mind the previous positive and negative findings and search only for other evidence but wipe the slate clean as it were and begin again. This is particularly desirable in annual or periodic health examinations. The patient should each year be approached as a new case and the previous findings should be reviewed in detail only after the re-examination. For the final diagnosis of a year ago is but the provisional diagnosis of today. In the interval changes may have occurred in any organ of the body. In acute illnesses indeed the diagnosis may change from day to day or even from minute to minute. By this I do not mean that in a case of pneumonia for example a complete physical examination must be made each day. But in that organ or region in which the disease is active every examination should be painstaking and thorough.

In the face of overwhelming evidence that a diagnosis has failed to fit the case one need not cling tenaciously to it for fear of appearing inconsistent. No man is so short-sighted as the one who refuses to change his mind.

7. *Non-cooperation or interference on the part of the patient.* Occasionally a patient will, either intentionally or because he does not understand its importance, withhold information from the doctor. The thoroughness of the history-taking and the gaining of the confidence and cooperation of the patient will usually obviate this. It is said that the Chinese will not tell the doctor their symptoms. He must divine them. The Occidental physician in China is at a disadvantage. The Chinese medicine man who knows the psychology of his race gets his information. He is called to the bedside of a sick compatriot who tells him nothing. The doctor announces that the patient is suffering from a pain in the knee. The sick man chuckles heartily at this failure of professional sagacity and announces that on the contrary the pain is in the back. To which the worthy seer replies, "Yes, it is in your back now but it began in your knee last night while you were asleep." Call it charlatany if you will but the physician has gained the information which he seeks.

There is another type of non-cooperation or meddlesomeness on the part of the patient.

Occasionally the invalid refuses to allow a detailed physical examination, insisting upon receiving a prescription after a mere discussion of the symptoms or perhaps a most circumscribed examination. Fortunate is the doctor who is so situated that he can refuse to treat any individual unless he has examined him as thoroughly as the evidence requires. I have had occasion to regret acceding to the patient's importunities far more often than I have felicitated myself thereon. The patient, not benefited, will pass on to the next physician assuring his friends that the diagnosis was incorrect and the treatment a failure thereby implying that a careful examination was made.

8. *Non-cooperation in treatment.* A diagnosis may be clinically correct and the proper treatment recommended but if the patient does not carry out the treatment as prescribed he will blame the doctor and question the diagnosis. There is here some justification for rigid insistence upon adherence to minutiae of treatment some of which are not necessary but are of distinct disciplinary value.

Nor is the patient the only malefactor in the matter of cooperation.

The family physician will bring the patient or as likely the patient will bring the family physician to the consultant and the latter after having established his clinical diagnosis will outline treatment which the family physician does not carry out in detail. I saw recently a patient from a neighboring state on whom I made a diagnosis of duodenal ulcer. To his physician at home I made a lengthy report outlining medical treatment in minute detail, emphasizing the dietary program and stressing the knowledge that the patient must remain on the diet probably for a year or longer. At the end of six weeks I received a most enthusiastic letter from the patient telling me how he had improved. Three months later while passing through town he dropped in to tell me that the treatment had been a failure. After questioning it developed that at the end of two months he had felt so well that the physician had told him he might return to a general diet.

In this type of case it is always the consultant who must bear the blame. His work is discredited through non-cooperation.

9. *Unavoidable contingencies.* Even with the most painstaking and conscientious ex-



aminer there will be a certain number of failures in diagnosis, errors which when later discovered appear so simple, especially to the layman, but errors which the examiner himself knows he will probably make again and which can scarcely be avoided. It is a penalty which the so-called diagnostician must pay that because of his very thoroughness he is supposed popularly to be able to discover and to foresee all diseases.

A philosopher might well write of the happy, carefree life of the general practitioner, called in to treat this or that circumscribed ailment and never held to account for the subsequent occurrence of disease in remote organs of the body. Not so with the internist. Having examined the patient in as conscientious detail as possible he is judged thereafter in accordance with the patient's subsequent freedom from illness. This is especially true in the so-called health examination and is a phase of this work which will require careful education of the public to prevent these examinations from falling into disrepute. Having examined a man and pronounced him well so far as could possibly be determined and then seeing him die three months later of an acute leukemia, is depressing when we realize that probably at least one member of the family will always remain convinced that it was your earlier incompetency which was responsible for the death.

The following examples could be matched from the experience of nearly every physician.

A woman with chronic arthritis was being studied for possible foci of infection. She had several suspicious teeth and the desirability of x-ray examination was discussed. She said, however, that the teeth had been x-rayed four or six months previously with negative findings. This phase of the subject was then dismissed. Three months later on her own initiative she had her teeth x-rayed again and two large abscesses were found. Both examinations had been made by the same man, a reliable dentist.

A virgin, thirty-eight years old, with eczema of the feet and a low grade chronic arthritis, was given a thorough physical examination with the exception of pelvic examination which I felt was not justified by the symptoms. Under treatment her symptoms cleared

up and she passed from under my supervision. Six months later she noticed a small lump low down in the abdomen apparently coming from the pelvis. She consulted a surgeon who on pelvic examination found a mass in the right adnexal region and on operation removed a rapidly growing malignant tumor of the ovary. Six months earlier there was no evidence whatsoever of the growth and it is indeed possible that it might not have been sufficiently developed to have been found even on pelvic examination. However, as far as the patient was concerned a thorough examination had been made and a malignant tumor had been overlooked.

An intensely neurotic married woman whose only symptoms were cardiovascular was put through a thorough examination. She refused, however, to allow a pelvic examination. She was seen off and on during the succeeding four years but at no time presented pelvic or lower abdominal symptoms and pelvic examination was not again suggested. Four years after the original thorough examination a surgeon found a cyst of the ovary which he removed. The original examiner was bitterly condemned for inefficiency. The patient in the meantime had forgotten her refusal to allow a pelvic examination and even denied it. Fortunately, however, a notation to this effect had been made in the record.

Diagnostic errors attributable to contingencies such as the three related above are bound to occur in the practice of the most careful. The very thoroughness of his examination lays the internist open to undeserved discredit in the event of subsequent illness.

Altogether too often the medical man is discredited, entirely as a result of our confused medical terminology. I recall seeing a woman with pneumonia in consultation with a good physician who, in the course of the discussion at which the husband was present, remarked that he had been giving digitalin in such and such a dose at stated intervals. Sometime later in the discussion I remarked that digitalis was clearly indicated. The husband, eagerly alert, turned pale as he remarked, "But, Doctor, she had had no digitalis." We quickly reassured him to the effect that digitalin and digitalis were synonymous terms. But often the anxious relative will not enter the discussion as did this one and the attending



physician will remain discredited in the eyes of the family even though he is prescribing the precise therapy recommended by the consultant.

How often are doctors erroneously quoted by the laity. Sometimes to their advantage but more often to their disadvantage. I have often been embarrassed by clever witticisms attributed to me which I know I have never had the humor to perpetrate. Not long ago a decompensated cardiac patient living in Richmond was seen by a Baltimore consultant. About the sum total of his consultation amounted to his recommending continuation of the therapeutic program and urging that the patient remain in bed at least six months. The abdomen was not tapped. The following morning a charming lady informed me in all seriousness that a New York heart specialist had seen the sufferer, had performed a wonderful operation and had withdrawn several buckets of water from the abdomen while the local doctors had stood about dumbfounded.

A patient comes to you dissatisfied with Dr. X without reason, informs you of Dr. X's diagnosis, assures you that it must be wrong and requests your examination and diagnosis. Upon the completion of your examination you find that Dr. X was quite correct. You realize at the same time that no matter what you say in confirmation the patient will not return to Dr. X. There are many medical terms which mean essentially the same thing, any one of which will satisfy the patient and will serve as a basis for therapy. Will you use the same term that was employed by Dr. X? Theoretically and ethically, yes, but practically, not likely. Look back honestly over your past experience and answer this question for yourself. The substitution of a different but essentially synonymous term may, you tell yourself, be better for the patient psychologically than the acceptance of Dr. X's diagnosis. But it will not help Dr. X. Just bear in mind that somewhere, possibly at the same time, one of your own patients is going through a similar experience with another Dr. X.

I make no reference to the medical misanthropes and semi-charlatans, sometimes high in the standing of their profession who deliberately, hypocritically discredit their confreres. Our diagnostic difficulties are abundant enough without them.

A policy of sincerity and frankness is always best in the end. The patient who will not listen to your confirmation of Dr. X's diagnosis and allow you to advise your own line of therapy will in the end be an unsatisfactory type of patient anyhow. The patient who comes in abusing his last physician will probably end up by abusing you. So be chary as to how you join in the hallelujahs. And as I have brought out in this discussion the tribulations of the diagnostician and the vicissitudes of diagnosis are ample enough without the useless inclusion of discredited personalities.

#### REFERENCES

- Barton, Wilfred M., and Yater, Wallace M.: *Symptom Diagnosis, Regional and General*, Appleton, New York, 1927.  
Murray, John W.: *Examination of the Patient and Symptomatic Diagnosis*. Mosby, St. Louis, 1926.

#### DISCUSSION

DR. JOSEPH L. MILLER, Chicago:

Dr. Vaughan has called attention to two points which interested me very much, the curiosity of the medical man and his ability to use what God gave him. I know that the student today, the intern today, has lost the ability to use his eyes, his hands, his ears, and his nose—the things that the doctor had to use before the days of so much laboratory work. I rather think he has a good deal less curiosity than the doctor who graduated twenty-five or thirty years ago, because he is crammed so that he never has any chance to think. I see less than ten per cent of my interns who have ever learned to think in terms of medicine. I don't think it is their fault; I think they have never been given any opportunity to think. Laboratory methods will never displace the old methods. I remember seeing a patient who fell down on the street in Washington and who was sent to a clinic and put through everything and was given a diagnosis of neurasthenia. I asked her what, in her opinion, caused her to fall. She said: "I have attacks of vertigo; I have had it for ten years." Didn't you tell them that?" She said: "Doctor, they never asked me."

DR. R. B. DAVIS, Greensboro, N. C.:

Gentlemen, that is the best paper I ever heard in my life, and I say that honestly and sincerely. Every doctor is interested from the start to the finish of that paper, and every

doctor who does not make a reputation for himself fails because he does not do the things that that paper emphasizes he should do. In my judgment, there are two things that keep us from doing those things. One is a lazy mind, and the other is insufficient fees for the service rendered. The majority of doctors feel that if they can go into the room and make a diagnosis in ten minutes they save a lot of time and can get out to the next patient in a little time and can do a good day's work. The majority of patients feel that if you make an examination an hour long and charge \$10 or \$15 for it you are a highway robber. So I feel that we have to educate the patients.

Dr. F. B. JOHNSON, Charleston, S. C.:

I hesitate to discuss a paper that has been so ably presented. My field is limited through my not being a clinician and not seeing the clinical side. I think, however, it should be emphasized that we should take into account the minute details. It is by the study of minute details that we get anywhere. It has been said that the laboratorian thinks that only by laboratory methods can we get anywhere, but I am not of that opinion. The clinician should do everything possible without the laboratory. Very often, however, there are times when the laboratory can be of great service, and then it should be used. Sometimes it is called upon too late. One, I believe, should not neglect the laboratory side in diagnosis. It may be confirmatory, sometimes contradictory, sometimes of negative value. Even if the laboratory report is in the negative, however, it may be of help in discarding a diagnosis already made.

Dr. J. ALLISON HODGES, Richmond, Va.:

I wish to congratulate Dr. Vaughan upon the very practical and very valuable paper he has given. It seems to me, however, that he has left out one thing which should be considered in making a complete study, and that is the patient himself. Certainly the patient himself, with his peculiar characteristics and temperament, must vary. Reactions must be different as you meet different individuals; and those reactions in a great many cases (not all), before even a laboratory or a clinical diagnosis is made, should be considered especially and clinically. Now,

if it is a fact that we all vary in our reactions to all of the different conditions and stimuli of life, then why should we not vary in the symptoms of disease, and our reactions, in a sense, be individually different? It seems to me if we are to treat a patient successfully, we must always bear in mind the fact that we must treat the disease plus the patient, so that when we come to diagnose the disease, likewise, the element of the patient must be considered. I do not believe that any one would in this day and time be willing to confine his diagnosis simply to laboratory methods, but it does take a fine sense of the justness of things to consider all of the facts that are placed before the physician and for him then to make up a well qualified diagnosis. Medicine is an art, as well as a science; and the physician himself, in his practice of it, must be a thoroughly well read man, a thoroughly well equipped man in all the different refinements of medicine and of surgery to a certain extent; and again it does seem that many of our diagnoses today are imperfect because we have gotten too far into the fields of specialism. While we may be masters in our special fields, we have not sufficient knowledge oftentimes in all the other fields to give a sound judgment after considering all the facts that will be presented for our consideration.

Not long ago I saw a patient who had been referred to me after passing through six hospitals. The man was so much interested in himself that he had the reports of all of the six hospitals. I suggested that he let me study his reports and come back in a day or two, as it would take some time. I found that there was not an organ in his body which had not been explored and studied, except the prostate gland, and I was wondering if an enlarged prostate could not cause the sciatic neuritis from which he suffered.

Dr. CYRUS THOMPSON, Jacksonville, N. C.:

I shall not say very much, though one of my friends insists I shall say something. I am delighted to hear Dr. Vaughan's paper and am delighted to hear as eminent a man as Dr. Miller get up here and say that perhaps we do not *observe* in this generation as carefully and humanely as a former generation observed. I think that is quite true, Mr. President. I think that when we talk

about the science and the art of medicine, the difference between the practitioner of this generation and the practitioner of an older generation is that the practitioner of this generation has more of the science and the older practitioner has more of the art. I think, as one gentleman here has suggested (Dr. Hodges, I believe), the difference is that the older man looked at the patient as a man and looked at him as a whole, and the newer man looks at him in the way of organs. One used his observation; one used his eyes and perhaps his heart also; the other uses his laboratory and not much his observation, not so much his eye and perhaps not so much his heart. I think, as a general statement, that when we fail in diagnosis we fail very largely, as Dr. Davis has said, because of laziness; and laziness sometimes comes about because of our knowledge of the lack of the compensation which we should get for our work. I take it for myself, when I make mistakes in diagnosis, though I cannot diagnose everything, the grievous mistakes in diagnosis that I make I make because I did not do the best that was in me. If I have any indictment to make against medical men in general it is not so much their lack of ability to diagnose, not so much their lack of equipment, but that they do not feel impressed with this—that whenever a patient comes and puts himself or herself in a doctor's hands it is the doctor's bounden duty to do the very best that is in him, whether he has compensation for it or no compensation for it. Let me illustrate, if I may. A young carpenter had contracted to build a fence around a gentleman's house, front and back. He did it well at the front. When he was building the fence at the back of the inclosure the gentleman went to him and said: "You are losing money on this job. You need not be so careful here at the back; just go ahead and put up a substantial fence." The carpenter said: "Yes, I know I am losing money. But someone will ask you who built the fence at the front, and you will say I did it, and I will not be ashamed of my

work. Then he may ask you who built the fence at the back, and you will tell him I did, and then I will be ashamed. I do not want to be ashamed to have you tell anyone I did all the work on these premises."

You know, I am an old stager. I do not use laboratory methods so much, but I doubt exceedingly if I make many more mistakes than you laboratory men. Let's do, whenever we attempt to do anything, let's always do our "level damndest," or nothing at all. We are obliged to our patient and no less to ourselves.

DR. WARREN T. VAUGHAN, Richmond, Va. (closing):

Dorland defines diagnosis literally as "dia-," "apart," the remainder of the word being "understanding," the understanding of diseases classified into separate entities. I very much prefer a different interpretation. "Dia-" also means, literally, "through." I have always disliked the term "diagnostician," but in view of the second definition I think I am beginning to like it. We might think of diagnosis as an understanding through and through, or a thorough understanding. This carries with it the implication of a knowledge of the appropriate treatment.

Dr. Thompson brings out the understanding of the patient himself, not only the seed of disease but the soil into which it falls. A case of pulmonary tuberculosis is always a case of tuberculosis, but in two persons it may be very different. One may be a Jew living in the Ghetto in one room, with a large family, and with diabetes in addition to his tuberculous infection. Another may be in a fine house on the avenue, with a family physician and consultant, nurses, etc., with the physicians in no hurry to go, and in addition suffering from a gastric ulcer. Both are tuberculous, but the inclusive diagnosis and the treatment are far different. I think the French have a very fine way of expressing it; they speak of treating not "pneumonia" but "a pneumonia," implying that they are treating the patient with pneumonia, and not the disease alone.





## END RESULTS OF GALL BLADDER SURGERY\*

CHAS. S. WHITE, M.D., Washington, D. C.

The impression is more or less general that patients operated upon for gall-bladder disease do one of two things,—die, or get well; but this is not altogether true, because all who do not die do not get well. There is a variable mortality, between one and seven per cent, but there is also a morbidity of which we hear very little. In other words, the patient who survives the operation is not of necessity a cured patient. As surgeons we must admit that fact. Taken as a whole, the results in gall-bladder surgery are unusually good and we can point to them with some pride, but there are just enough uncured patients to check any extravagant claims we may foster, or any self-conceit that we may nourish.

It is a very good habit to take stock occasionally, and learn the real status in regard to cures. The uncured patient is a great problem and, in a measure, a great blessing. With the hope of adding something to our knowledge of the uncured patient, we reviewed one hundred cases of cholecystectomy which were done between July 1, 1925, and June 30, 1927. We sent out two hundred simple questionnaires to two hundred "ectomized" patients and used the first one hundred answers which were returned. Only an optimist of the *n*th degree would expect to receive anything like two hundred replies.

Possibly we received an over-proportion of replies from uncured patients, as it seems only human for the person with a grievance to register more promptly than the person who is satisfied. The work is fairly representative of that done in the larger cities on this continent. We are not affiliated with a clinic; most of the cases come referred, and we use the laboratories as far as conditions permit. We are sometimes restricted in laboratory work by the financial resources of the patient. Our tabulations are as follows:

59 per cent stated that they were cured, without an "if" or "but."

31 per cent were much better, but a further

analysis of these cases showed that at least 23 of the 31 could be classed as cured. For example: some complained of constipation; others of pain in the chest, pelvic pain, and symptoms which had no intimate relation to gall bladder disease.

10 per cent told us in very plain language that they were no better, and this was true.

Why did we fail to cure 10 per cent of our cases of gall-bladder disease by an operation which removed the gall-bladder? Taking up these cases individually, we found this:

In one case, cerebral thrombosis developed on the fourteenth day and was followed by hemiplegia which we believe to be permanent. One developed pernicious anemia; one has a fibroid tumor of the uterus; and, another developed a large hernia in the wound.

This left six cases without an excuse for being unimproved and they tell the story of the uncured case. Let us look into them:

In most of these cases the clinical history was not typical of gall-bladder disease, but the roentgenologist's report in five of the cases showed that by cholecystography, the gall-bladder should be classed as pathologic. After operation these gall-bladders were sent to the laboratory and in two of them no microscopic pathology was found. Here was something to think about. How should we evaluate the x-ray diagnosis of gall-bladder disease? I am not prepared to answer that question in an authoritative way, but I have made some personal observations which are guiding me at present.

The fact that a gall-bladder fills or empties slowly, or is smaller or larger than usual, or has an abnormal contour, does not convince me that the patient has gall-bladder disease. How many of us here know what are the variations of a normal gall-bladder? Can we standardize gall-bladders? Can a small gall-bladder function as well as a large one? Certainly a small man may do as much work as a large one! Until we know more about the normal gall-bladder we must accept these borderland cases with some reservation. The gall-bladder which does not fill at all approaches our conception of pathology.

In one of our uncured cases we received a

\*Read before the Thirtieth Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.



report of improperly filling gall-bladder. This patient had been running a low fever for a long period, blood cultures were negative, and the patient had some dyspepsia. The gall-bladder was removed but was not grossly pathologic. The patient was not relieved. Some months later this patient died and at autopsy multiple infarcts were found in the liver and spleen, from which a pure culture of streptococcus hemolyticus was obtained.

Another one of the uncured patients complained of pain under the costal border three months after cholecystectomy. The preoperative diagnosis was duodenal ulcer, but no ulcer was present. The gall-bladder could not be emptied and the aspirated bile was very dark. The gall-bladder was removed. The patient was relieved for three months only. This patient was thoroughly re-studied and shown by internists at the A. M. A. meeting in Washington last May and a diagnosis of spastic entero-colitis was made. We feel that the patient may have an incomplete stricture of the common duct.

A type of case which is never cured is one in which the correct pre-operative diagnosis is not made. Here is an illustration: This patient had his gall-bladder removed because the gastro-enterologist studied his case and believed the patient had cholecystitis. The cholecystographic report was negative. The patient was operated upon but was not relieved. Later the diagnosis was ureteral stricture. The patient had dilatations by a competent urologist, with a little temporary relief. At present the diagnosis is gastro-intestinal neurosis,—another way of saying we have not yet made a rational diagnosis. We not only made a mistake in removing the gall-bladder, but we made a mistake in operating at all.

We have seen two cases, but not in this series, in which gall-stone colic was present after cholecystectomy. This I believe is due to stones overlooked in the cystic or liver ducts. The practice of attempting to empty the gall-bladder by manual compression may be responsible, in that such compression may force smaller stones back into the ducts. Judd has investigated similar cases and has not found any consistent pathology even after opening the common duct. He favors a partial stricture and spasm as the cause. The attacks, while they usually have all the fury of typical gall-bladder colic, are of short dura-

tion and are few in number.

Another condition which I wish to mention briefly is the persistent biliary fistula. In almost every instance it is due to narrowing or complete occlusion of the common duct. Only those who have attempted to rectify this condition can speak with authority upon the difficult and serious nature of the operation. Many ingenious operations have been devised with only a fair measure of success. In two cases I have had satisfactory results by a comparatively easy and safe method. It consists in dissecting out the fistula, but of course leaving it attached at its point of origin—usually the stump of a gall-bladder—and implanting the distal end into the stomach, very much as we would do a cholecyst-gastrostomy. Possibly others have used this method, but I do not know. I can recommend it.

Our failures were made up chiefly of patients with vague digestive disturbances and with a pathologic gall-bladder from a cholecystographic standpoint. None of these patients had either typical colic or any severe pain.

Were we to ascribe a cause for the unsuccessful operation, I would say that too much dependence was placed upon the x-ray examination—and by that we mean the Graham technique,—and not enough upon the history and physical examination. We still believe the clinical history occupies the first place in the rating of diagnostic points. There seems to be a trend to get away from the history and stress the x-ray, largely because of the brilliant achievements in the latter field. Without detracting one iota from Graham's great contribution to our knowledge of gall-bladder pathology, we are of the opinion that we have laid ourselves open to serious error by disregarding fundamental principles of diagnosis for a method which is still on trial. Report of from 96 to 98 per cent correct diagnoses has an appeal that is difficult to resist. Our estimation of the percentage of correct diagnoses in cholecystography is somewhat lower, so much lower that I cannot afford to forget the routine examination and give it a value.

Case, of Battle Creek, in a recent paper before the Western Surgical Association at Omaha, cited some interesting figures: In a series of 36 cases designated normal, the

cholecystography was correct in 86 per cent. Of the "pathologic non-calcareous" gall bladder, 85 came to operation, and in 14 of these the gall-bladder was normal, or an error of 17 per cent. In cases of stone in the gall-bladder, cholecystography was correct in about 95 per cent of the cases.

From the failure to relieve patients who are presumably suffering from cholecystitis or cholelithiasis we are convinced that these diseases are often merely a part of a larger picture, involving also the liver, the pancreas, and probably becoming a part of a general metabolic disorder, such as cholesterosis. The best results will follow in the frank cases of gall-bladder disease and the sooner they are operated upon, the more complete and more lasting is the cure. The examination should not be confined to the gall-bladder, but particular attention should be given the pancreas and the liver. The vague or borderland case has the largest percentage of failures, due chiefly to dependence upon laboratory methods of examination. The time has not arrived when we can accept the x-ray in lieu of personal contact with the patient.

In conclusion I would say that we can record a failure to cure in about 6 per cent of our gall-bladder cases, outside of the immediate mortality. This percentage of failure is almost entirely due to incorrect diagnoses. The error in diagnosis is lack of evaluation of the clinical history and too much dependence upon cholecystography. I remind you that the clinical history plus the x-ray is necessary to reduce failures.

#### DISCUSSION

DR. FRED M. HODGES, Richmond, Va.:

Dr. White has already given us a very small percentage of failures. Ten per cent of failures is certainly, showing as good or better results than other surgeons are obtaining.

I think Dr. White is correct in saying that we are putting too much dependence on the Graham test, but when that is combined with a complete gastro-intestinal examination I think that we have a dependable method of diagnosis in the majority of gall-bladder cases.

I do not see why a roentgenologist should not be enough of a clinician to properly take and interpret a history. I do not mean this in the way it sounds, but I should like Dr. White to tell us what the symptoms of gall-

bladder disease are. We still find that many patients with the usual symptoms of gas, belching, pain in the upper abdomen, etc., have cancer or ulcer or something else besides gall-bladder disease. We do not know that certain symptoms point toward the gall-bladder but frequently the disease is elsewhere. I do believe that when one has a complete history and a negative gastro-intestinal examination he can then frequently indict the gall-bladder and usually come out right; but if he fails to take the history I think his failures are going to be very much more than ten per cent in gall-bladder diagnosis.

DR. R. L. PAYNE, Norfolk, Va.:

I think Dr. White's paper is one of the most level-headed papers on gall-bladder surgery that I have listened to for a long time. I think he brought out some points we may well pay attention to. In our experience, the worst gall-bladder cases are the ones that get the best results. Those that come to us as fulminating gall-bladders are the ones that get most relief. About 80 per cent of those that come to us with gas and pain get relief. Those that do not get relief are those with an indefinite history—a little bit of gas, pain, possibly a little tenderness with two thumbs pushed up under the liver. We make a diagnosis of spastic colitis. They are all constipated. The surgeon fails to recognize the pathology when he goes into the abdomen and does not recognize that he is dealing with a definite hepatitis. We are all of us more or less in the routine of taking out the gall-bladder. When we have hepatitis they should be treated by having the gall bladder drained for a long period of time—not six weeks but six months, possibly. They get relief under this treatment.

DR. J. M. NORTHINGTON, Charlotte, N. C.:

Dr. Hodges has made the point that the roentgenologist is also a clinician. That possibly brings up a point for consideration that we had in the Army which gave us a great deal of trouble on the clinical side. There was a very enthusiastic attitude taken by the roentgenologists that, by the use of their own machines and the interpretation of the pictures, they could diagnose pneumonia ahead of the clinician. The enthusiastic representation of this idea at the table and in the evenings, when we were gabbing and gadding, instilled the idea in a great many of our

ward surgeons—many of whom were just out of school—that the proper way to diagnose pneumonia was to take the patient's name and his command and his number from his dog tag, and send him up to the x-ray department for a diagnosis. I am thoroughly convinced that the cessation of hostilities has not brought about a cessation of this attitude on the part of a good many folks who profess to diagnose disease. The paraphernalia of the x-ray man is very impressive to the patient. A great many folks have the idea that they can appear before an x-ray man and have all their past history revealed, that it is just literally turning them inside out, that the x-ray can find out just what is wrong with a man from his toes to his topmost hairs and find out even what is likely to be wrong in the future. The point I make is that it is very unfair to the clinician to pit the results of an x-ray examination *plus* the other methods of examination, on the one hand, against, on the other, an examination made by the ordinary means unaided by x-ray.

DR. HODGES:

I think Dr. Northington has gotten the wrong impression from what I said. He believes that a roentgenologist should make a diagnosis from nothing but x-ray films. I believe he should have the same information which the internist or surgeon has and that by working together each can learn a great deal from the other. I do not believe it is possible to do good duodenal and gall bladder work without the x-ray, which I believe gives most valuable information in these conditions. I asked Dr. White the question in regard to what a gall bladder history means not in the way of criticism, but because I would like to know just what a history of gall bladder disease is.

DR. NORTHINGTON:

I fear I did not make my meaning clear. Far from thinking that the roentgenologist should make a diagnosis from the films alone, I do not think he should make a diagnosis at all; rather that the diagnosis should be made as a result of an earnest consultation (in the right sense of the word) between all those who have investigated the case and pronounced by the man in whose hands the patient has placed himself and to whom he looks for results—the clinician.

There is no such thing properly as "a lab-

oratory diagnosis" or an "x-ray diagnosis," any more than there is a verdict based on the evidence of witness Jones, and a verdict based on the evidence of witness Smith. True the verdict may be arrived at because of the testimony of one witness, in either law court or sick room; but all competent witnesses are first attentively heard—and as the judge and jury render the verdict, so should the clinician charged with the management of the case, render the diagnosis.

DR. DEWITT KLUTTZ, Greenville, S. C.:

Nothing has been said about the appendix in these cases. Practically all the cases of definite cholecystitis show a diseased appendix.

There is another point I would mention. The percentage of failures after cholecystectomy is greatly reduced by proper medical treatment following the operation. We follow a routine procedure with all cholecystomized patients of treating them as if they had not had cholecystectomy. All of them are given bile salts. Two, I remember, did not show cures after operation, and we put them through gall-bladder drainage and finally got a cure. The proper way is to treat that diseased liver for some time. I remember a case some time ago in which a small piece of the liver was removed, which showed disease. We have the surgeon do that in all cases in which he will do it, to see if there is disease in the liver. It is hard to see how they will get relief unless you do give medical treatment by drainage or bile salts or unless you drain the gall bladder instead of taking it out.

DR. CHARLES S. WHITE, Washington, D. C.:  
(closing):

In the case of a positive Graham, with no gross evidence of pathology, I always needle the gall bladder. There is no danger of a leak following, and I think it should be done.

I have great respect for the x-ray man and always shall have. But I see no reason to promise a patient a cure when he has a positive Graham. I think it is wrong to do an operation simply on that, without a thorough physical examination. There is a commercial element entering into this; men are making x-ray examinations who are unqualified to do it. At least we have that to deal with in Washington, and I presume it will spread to the South.

I appreciate the discussion and thank you.

## THE ROENTGEN-RAY DIAGNOSIS OF NON-OPAQUE FOREIGN BODIES IN THE BRONCHI

### Report of Cases\*

J. L. TABB, M.D., Richmond, Va.

It is my purpose to limit my remarks chiefly to obstructive emphysema with its accompanying cardiac displacement. These are usually the first and most prominent x-ray signs following the inspiration of a foreign body into the bronchus.

Opaque foreign bodies will not be discussed. They are usually plainly visible on the films and the diagnosis is easily made. The time allotted for the presentation of this paper will not allow the discussion of non-opaque foreign bodies in the trachea<sup>1</sup>, and for the same reason only a small amount of space will be given to atelectasis. This is usually a late sign and it is our aim to make the diagnosis before it occurs.

foreign body enters a bronchus it allows a little air to slip by it into the lung, when the bronchus expands during inspiration; but on expiration, when the bronchus returns to resting size, the foreign body obstructs the outflow of the air. We see then that the foreign body acts as a valve, letting air into the lung but not permitting its escape. The result is that the affected lung becomes over distended with air—the so-called “obstructive emphysema.”

There are four main signs of a foreign body in the bronchus: 1—obstructive emphysema, which causes a decrease in density of the affected lung; 2—displacement of the heart away from the foreign body; 3—free

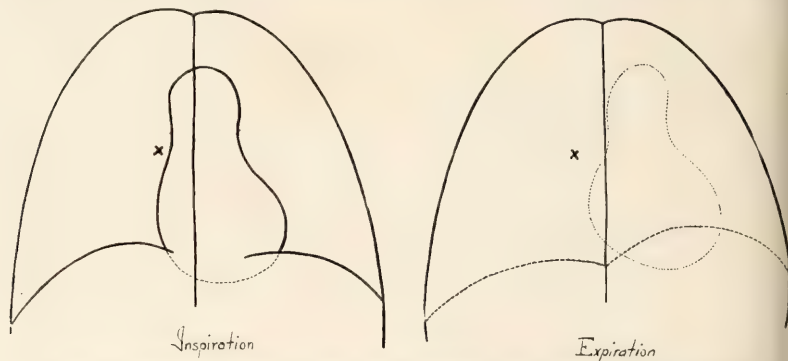


Fig. 1.—Representing positions of heart and diaphragm at full inspiration and full expiration. Notice shifting of heart to left, mobility of left side of diaphragm and flattening of right side of diaphragm on expiration. Cross represents foreign body in right main bronchus.

To Dr. Iglauder belongs the credit of first describing obstructive emphysema and for explaining the mechanism by which it is brought about. Later, Manges<sup>2</sup> systematized both the method of examination and interpretation and put the diagnosis of these foreign body cases on its present firm foundation.

A bronchus expands on inspiration and returns to resting size on expiration. When a

mobility of the diaphragm on the unaffected side; and 4—depression and immobility of the diaphragm on the affected side.

Figure No. 1 shows the displacement of the heart and action of the diaphragm during the respiratory cycle. Due to the presence of the foreign body, the right lung is over distended with air, and therefore the pressure on the right side of the mediastinum is greater than on the left. This tends to shift the mediastinum to the left. On expiration the air leaves the left lung but cannot leave the right, which makes the pressure very much

\*Read before the Thirtieth Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.



greater on the right side of the mediastinum, so the heart shifts towards the left, or unaffected side, in order to neutralize this inequality of pressure. When, on inspiration, the air enters the left lung freely and raises the air pressure on this side of the mediastinum, the heart returns to a normal or near normal position. The diaphragm on the left, or unaffected side, is freely movable, but on the right, or affected side, the diaphragm is not movable. It may be depressed or flattened on expiration due to the action of the intercostal muscles.

Figure 2. represents the equal density of normal lung fields.

Figure 3. illustrates a foreign body in the right main bronchus.

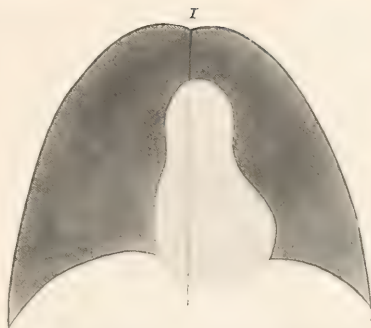


Fig. 2.—Representing normal lung fields of equal density. Position of heart and diaphragm is normal.

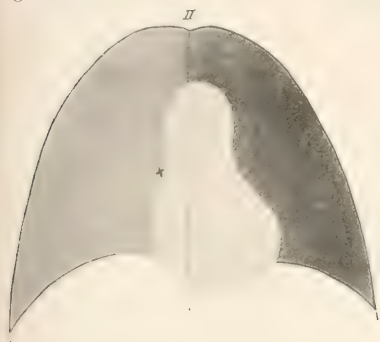


Fig. 3—Illustrating typical unilateral obstructive emphysema from foreign body in right main bronchus. Notice decrease in density of affected lung, shifting of heart away from foreign body on expiration, free mobility of diaphragm on unobstructed side and immobility on obstructed side.

The right lung is overdistended with air, obstructive emphysema being present. This shows on the film as an area of decreased density. On expiration the air leaves the left lung and hence the relative inequality in density is even more marked. On expiration the heart shifts to the left, the left side of the diaphragm makes its normal upward excursion and the right side of the diaphragm is flattened and somewhat depressed. This diagram, then, illustrates what may be called the typical findings in a case of foreign body in the bronchus. The diagnosis at this stage may be readily made and for this reason I wish to stress the point that all suspicious cases should be x-rayed early, while these typical signs are present, and not at a later time when the child has become acutely sick

and the pathognomonic signs have partially or completely disappeared.

It would probably be well at this time to explain how the above mentioned typical signs may disappear. The foreign body is an irritant and the mucous membrane becomes inflamed with a resulting edema. This produces a narrowing of the lumen and the time eventually comes when the foreign body becomes tightly wedged in this swollen mucosa and fails to allow even a small amount of air to enter the lung. The bronchus is now completely occluded and no air enters or leaves the lung by way of its normal passage. As soon as this comes to pass the air is absorbed from the lung by the blood stream, the overdistention, or obstructive emphysema, disappears, the density of the

lung field approaches the normal, the air pressure on the two sides of the mediastinum reaches an equilibrium and the heart returns to its normal situation. (See Figure 4—Plate IV.) Later more air is absorbed, the lung

ward displacement of the diaphragm. Children under two years of age rarely reach this final stage.

Chevalier Jackson and others<sup>3</sup> have called attention to the violent reaction occurring

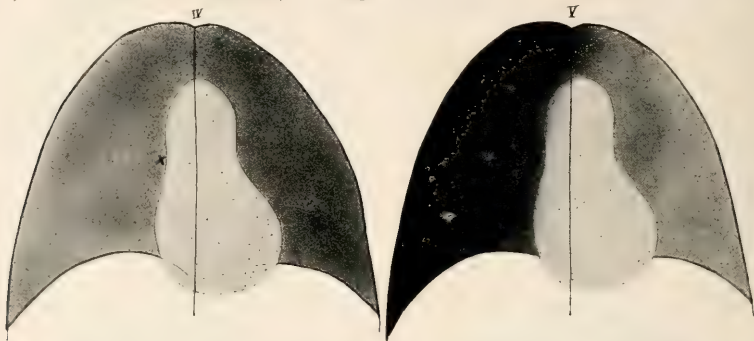


Fig. 4—Plate IV shows a later stage. The clear cut diagnostic signs are disappearing. The bronchus is now completely blocked. Obstructive emphysema is disappearing as the air is being absorbed. Secretions are collecting.

Plate V shows a still later stage. More air has been absorbed; more secretions are present. The lung is becoming atelectatic. Eventually the heart will be drawn to the right and the right side of the diaphragm will be elevated.

field increases in density, due to atelectasis, and the heart shifts towards the affected side. Pneumonia, lung abscess may develop, or secretions form to confuse further the diagnosis. Finally complete atelectasis may occur, with total retraction of the heart into the affected side of the thorax with marked up-

ward displacement of the diaphragm, especially the peanut, in the respiratory tract and its high and rapid mortality in children under two years of age. Older children and adults seem to handle the presence of these foreign bodies much better.

Case No. 1—J. S., white, age 14

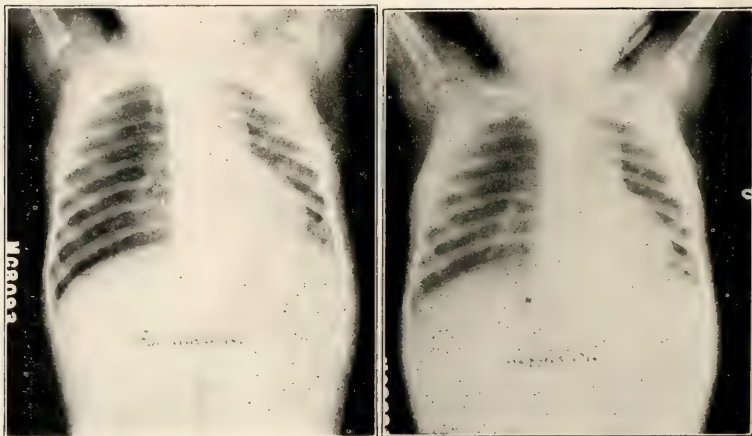


Fig. 5—Case one.—Orange seed in right main bronchus. Obstructive emphysema of right lung is very marked, there being a marked displacement of heart to left even on inspiration. This is more marked on expiration. Note decrease in density of affected lung, displacement of heart to left, mobility of left side of diaphragm and immobility of right side of diaphragm.

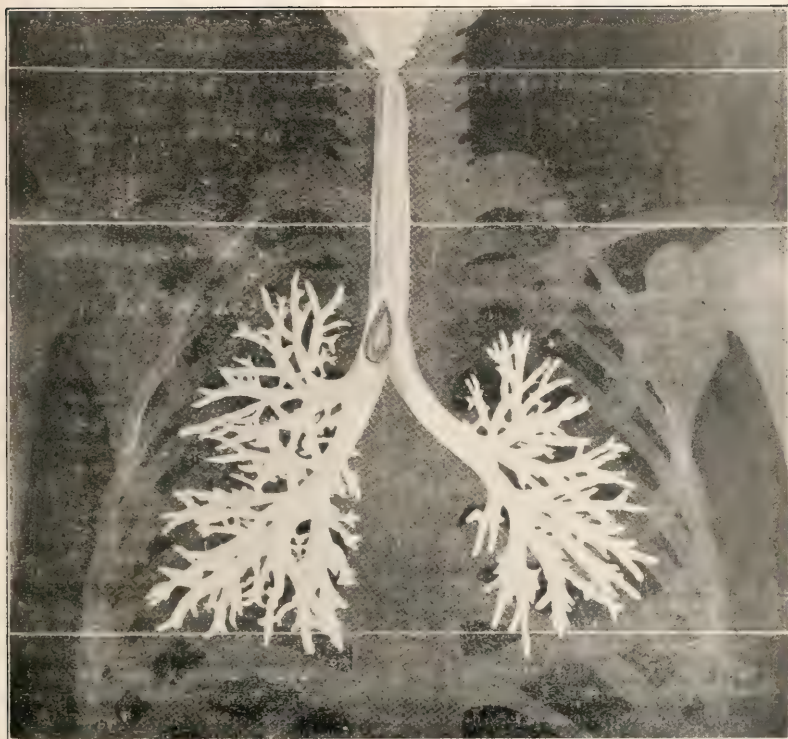


Fig. 6—Case one.—Photograph of bronchoscopic chart showing location of orange seed which obstructs the right main bronchus. (See Fig. 5.)

months. Admitted to hospital January 3, 1927, with the following history: She had always been a normally healthy baby. All previous history is omitted for the sake of brevity. The child was playing on the floor with a piece of string which it frequently put in its mouth, when suddenly it had a severe coughing spell and turned "blue in the face." The family physician was called, but the child apparently recovered entirely before his arrival. In view of the history, a foreign body was thought possible, in spite of the fact that she at that time appeared perfectly well. A consultation with a bronchoscopist was secured and it was thought advisable to watch her very closely. The next day she

appeared perfectly well and had had no coughing spells or other signs of a foreign body. The following day she had a slight fever and did not seem entirely well. She was at once carried to the hospital and an x-ray examination made, which showed the typical signs of a non-opaque foreign body in the right main bronchus. The child was posted for a bronchoscopic examination the following morning, but at that time her condition was decidedly worse, the temperature being 103.6, pulse 145 and respiration rapid. The bronchoscopic examination was postponed hoping that she would improve. There was very slight improvement but it was only temporary. She then became critically ill, so that it

was thought advisable to send the patient to Jackson's clinic at once. Dr. Clerf removed an orange seed and about one ounce of pus from the right main bronchus. The recovery was complete in about two weeks.

Case No. 2.—J. M., white, aged 2. Admitted to the hospital on March 9, 1926, at 4:40 p. m. The mother report-

ed that the child had "swallowed a bean which went down its windpipe," and that the baby coughed and "turned black in the face." The hospital record gives the following: "Examination of throat does not reveal anything. Coarse rales heard on both sides of chest, more marked on the right, the rales appear to be transmitted from the throat due to mucus,

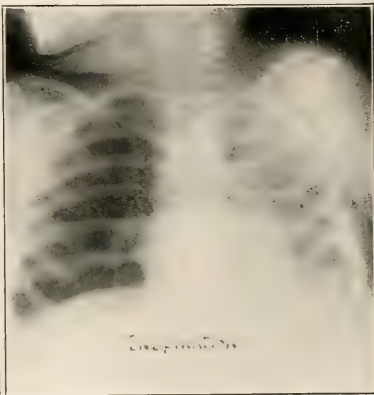
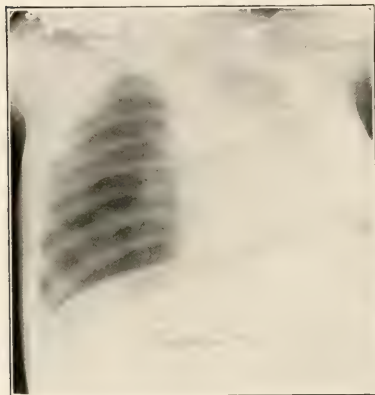


Fig. 7—Case two.—Bean in right main bronchus. Note the displacement of heart away from foreign body at the end of expiration and its return to normal position on inspiration. The decreased density of affected lung is more marked on expiration. The diaphragm on the left side is movable, it is not movable on the right.

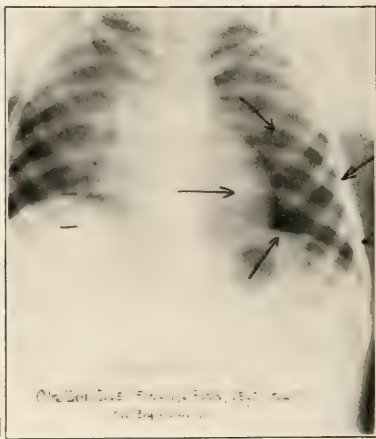
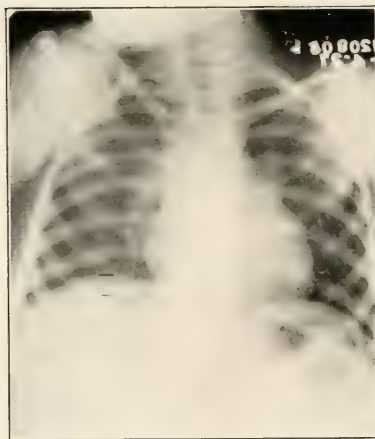


Fig. 8—Case Three.—Watermelon seed obstructing the left lower lobe bronchus. Note obstructive emphysema of the lower left lobe. The movement of the left side of the diaphragm is slightly restricted. Fluoroscopic observation showed a slight, side to side movement of the heart during the respiratory cycle.



etc. Child does not appear ill and has no respiratory difficulty." X-ray examination showed the typical signs of a non-opaque foreign body in the right main bronchus. The father signed the hospital release and took the child home at 6:15 p. m. on above date, against the advice of the attending physician.

Child returned home apparently perfectly well, ate a hearty supper and shortly thereafter became quite ill and died at 11:00 p. m.

Case No. 3.—K. M., aged 5 years. Entered hospital September 5, 1927. She had been eating watermelon a short time previously and had become choked with either the pulp of the melon or a seed. At time of admission she complained of a choking sensation. Her temperature was 98.0, pulse 110 and respiration 20. X-ray examination revealed obstruction of the left lower lobe bronchus. Bronchoscopic examination by Drs. Mitchell and Hodnett showed a watermelon seed in the trachea. This was easily removed and the child's recovery was rapid and complete.

Before closing I wish to call especial attention to one point. Every child with a history of choking of any severity should be x-rayed promptly before the typical signs of obstructive emphysema disappear. These children, after the primary paroxysm of choking is over, often appear entirely well. Further coughing attacks may not occur and they may play and eat as usual, until they become suddenly and critically sick. The physician should not be deceived by this quiescent period and omit x-ray examination, waiting for "further symptoms to develop."

#### BIBLIOGRAPHY

1. Manges, W. F.: Roentgen Diagnosis of Non-opaque Foreign Bodies in the Trachea. *Am. J. Roentgenol. and Radium Therapy*, 1925, Vol. XIII, 429-437.
2. Manges, W. F.: The Roentgen-Ray Diagnosis of Non-opaque Foreign Bodies in the Air Passages. *Amer. J. Roentgenol. and Radium Therapy*, 1922, Vol. IX, 288-303.
3. Allison, R. G., and Phelps, Kenneth: *Radiology*, 1928, Vol. X, 157.

#### Discussion

Dr. F. M. HODGES, Richmond, Va.:

I enjoyed Dr. Tabb's paper very much. I think the entire medical profession owes a

great deal to Dr. Manges of Philadelphia, who, associated with Dr. Jackson, worked out most of these signs which lead us to suspect foreign bodies in the bronchi.

Dr. Tabb said in the beginning that he would not consider foreign bodies in the trachea. We had one child who had all the symptoms of foreign body either in the trachea or in one of the larger bronchi. The child was x-rayed, and we were unable to find anything at all. Two or three hours after the examination was made the mother called up and said the child was having more difficulty with respiration. It was not having any difficulty at the time we made the examination. What had happened was that at the time we made the observation the foreign body was in the trachea. It was not large enough to cause obstruction of the trachea, but later it had gotten down into a bronchus and was causing obstruction. So even if the examination is negative there should be further study if the child is having symptoms.

Dr. J. L. TABB, Richmond, Va. (closing):

Dr. Hodges is certainly correct in saying that if a child has definite symptoms of foreign body you may miss it on examination. Some you will have to examine three or four times. Another thing: if the foreign body is found and is removed by the bronchoscope, it is a good plan, and it is always done at the Jackson clinic, to x-ray the patient the next day. If signs have not disappeared, then you have reason to suspect that some fragment of the foreign body is still present. The x-ray signs will not clear up immediately, but in practically all cases all the x-ray signs will have disappeared by the following day if there is no remnant of foreign body present.

#### AND DON'T FORGET THOSE DUES

Golf is what letter-carrying, ditch-digging, and carpet-beating would be if those three tasks had to be performed on the same hot afternoon in short pants and colored socks by gouty-looking gentlemen who required a different implement for every mood. —*New York Sun*.

"Knee-length skirts have reduced street car and automobile accidents fifty per cent.

"Wouldn't it be fine if accidents could be prevented entirely?"—*Detroit Free Press*.

#### WILL KNOWS US

The southern voters will vote against Al Smith, Rogers opined, provided they can stagger to the polls on election day.

## THE GOLDEN RULE IN SURGERY\*

SOUTHGATE LEIGH, M.D., F.A.C.S., Norfolk, Va.

The time has come when a society such as this, composed of the most earnest and thoughtful men in the three states, should face unhesitatingly a very serious situation which exists all over the country today.

At the last meeting of the A. M. A., Speaker Warnhuis, of the House of Delegates, in his annual address spoke as follows:

"Your Speaker is constrained to direct your attention to what is more and more becoming a serious problem and on which the public is becoming insistent for enlightenment. I refer to what are or shall be the qualifications and requirements for a man to be classified as a capable, competent surgeon. Under our plan of medical education, by reason of the tremendous increase in the number of all kinds and types of hospitals, because of perfected aseptic methods, and lastly because of the outstanding achievements that can be attained by surgical methods in the hands of competent, experienced surgeons, there is evidence of ill-advised, poor and unskilled surgical work being done by undertrained, incompetent men. Hospital boards in smaller hospitals are not in control of the situation, unsupervised private so-called hospitals exist, and the public will suffer unless we institute measures by which to formulate standards that may be employed. Visits to the operating rooms and wards of hospitals and clinics reveal increasing evidence of incidents of ill-advised, incompetent surgical work. This is not a general broad indictment. It is a citation of conditions that may expand with potential reprehensible possibilities.

As an association we have assumed and acquitted ourselves in the problem of standardizing our medical colleges. We have appraised and classified these colleges. We have surveyed and designated hospitals where satisfactory intern training is accorded. We have exposed and continue to expose therapeutic fraud and misrepresentation. We have given publicity to the quack and the charlatan and uncovered their methods. Within the

year we have undertaken to pass approval on all electrical and physical apparatus in order that dependable, efficient apparatus may be identified. We have outlined certain requirements and standards of fracture treatment. These and similar reforms have received our attention and we are justly proud of the achievements recorded. Has not then the time arrived and are we not obligated, as America's highest authority, to whom the public rightly appeals for guidance and advice, to solve this one momentous question as to the requirements, qualifications and standards that are basic and essential ere one may hold forth as being a capable, dependable, properly trained surgeon and to formulate a means whereby the public may make such identification? I myself believe that however small the evil may be now is the time to dominate the situation. Sincerely, therefore, does your Speaker recommend and urge that by proper action you authorize the appointment of a commission of seven to whom this question and problem shall be referred with instructions that a preliminary report be submitted at our next annual session.

All types of bulidings have been and are being converted into so-called hospitals. All types of hospital administrative supervision prevail or are wholly lacking. It is not uncommon to find the quality of professional services rendered in these so-called hospitals to be of mediocre or poor standard. Doctors denied admission by standardized hospitals, or whose work is limited in such institutions because of incompetence, induce patients to enter these unapproved hospitals, which are frequently hospitals in name only. It is quite apparent that it is our duty to concern ourselves with this menacing state of affairs. The public is seeking relief from the existent conditions."

We must give earnest thought to the causes of such a serious situation which is undoubtedly bringing discredit on our profession.

The lure of performing operations possibly turns the head of some, who if they would but submit to careful self-examination would hesitate to take the responsibility.

---

\*Read before the Thirtieth Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.

Many operations seem much simpler to the spectator than they really are, since he frequently does not realize either the preceding painstaking, thorough investigation, the careful preparatory treatment; and also the long practical training which make it appear so easy. Open staff hospitals with good nurse assistants, trained by competent surgeons; and often the aid of a competent man nominally assisting an incompetent one in operating may all of them encourage such a state of affairs. The problem of the small, incomplete hospital is, to our minds one of the most serious problems of the times. It is undoubtedly hard on ill patients to be transported a great distance to high class hospitals, and the temptation is great to have neighborhood hospitals which are much more accessible.

An x-ray department, capable of the best work, is very expensive. A really competent x-ray man is more so. A properly equipped and properly manned laboratory is also a heavy financial burden. A genito-urinary department, with full equipment and trained workers, capable of properly and promptly examining bladder, ureters, and kidneys is nowadays a necessity. Here are three essentials which but few of the small hospitals can afford. Such equipment is practically as expensive for the small hospital as for one of 100 bed capacity.

How then can they do good and safe work? This is said in no spirit of criticism. We are trying to face the facts as they are and to find a remedy for the bad situation.

Formerly, before the splendid development of the x-ray, the laboratory and genito-urinary departments, we simply had to do the best we could. We must admit that in those days the diagnostic sense was probably keener than it is today, and that some remarkable work was done; but even with that, many, many bad conditions were overlooked and incorrect diagnoses made.

An ordinary x-ray machine with an untrained operator will show simple fractures, but of what aid would it be in gall-bladder work, in ulcer of the stomach and in mastoid disease? And even in bone work, we are coming across entirely too many cases of spine fracture that have been overlooked by poorly trained men and poorly equipped machines.

The skilled genito-urinary man working

with competent x-ray associates is helping enormously in the differential diagnosis of many obscure conditions. They are finding many cases of stricture of the ureter, of disease of the kidney pelvis and other affections, that in no other way could possibly be discovered. The laboratory too is clearing up many doubtful cases and is just as essential with its proper working, as the other two aids. The question of *personnel* in the hospital work is also of prime importance. In addition to a safe and careful surgeon, a competent internist is necessary.

The point referred to by Dr. Warnhuis is, of course, not a debatable one. No man should pretend to do surgery without the proper education and training. The only way for a doctor to become proficient in the technique of surgery, is to work alongside of a safe and careful surgeon for a sufficient length of time. It is utterly impossible to gain such skill from books and even from watching others. One must have one's hands in the work. To an experienced surgeon, who is familiar with the various and sundry pitfalls and difficulties of surgery, it is really inconceivable why one should choose to do such vital work without the proper fitness and training.

It would seem that such a situation must be due to a lack of realization of the true conditions and it behooves a society like this one to make these matters plain to the profession and to the public. It would be a splendid thing if we could have a few Golden Rule hospitals, where all connected with the institutions would have a full realization of what the Golden Rule means in life, and especially in surgery. I fear that there are before me some who are in their minds belittling what I am saying and minimizing the condition as I see it. I realize fully that the need for neighborhood hospitals is of importance and must be considered with the greatest care, but I contend that with the present state of affairs the small hospital is at times a menace. I believe that in time the problem will be worked out by the proper segregation of cases. The problem of the incompetent surgeon is one that should be handled promptly and vigorously. In all of these matters, if we could but place ourselves and our loved ones, in the position of the patients, it would undoubtedly have a salutary and often deterring effect. Would we like to be



operated on without a really thorough examination being made to determine as positively as possible the condition of the entire system? In any serious condition, would we not want our blood to be fully examined? In the event that we might have to be operated on for gall-bladder disease or ulcer of the stomach, would we not want a full x-ray examination made by a competent x-ray man? In the event of serious illness and operation, would we not want to feel that the hospital was fully equipped for all kinds of surgical work and every kind of after treatment, including intravenous medication and transfusion? In short, would we not want for ourselves and our dear ones, the very best care and attention known to science? If so, we should want and demand the same for all of our patients, high and low.

I realize that there are but few brilliant men in any line. I am not suggesting or demanding brilliancy, but only that the surgeon should be safe and the other *personnel* be trained and up-to-date, and supplied with all necessary equipment and facilities.

The American College of Surgeons has done marvelous work in raising the standard of surgery throughout this entire country and yet like many other splendid efforts, there have been many disappointing agencies which have greatly marred its work. This is clearly proven in the heavy increase in mortality in abdominal surgery during very recent years. The situation is a serious one. Something must and undoubtedly will be done. The question is what we should do and when?

Sarah Leigh Clinic

### Discussion

DR. L. A. CROWELL, Lincolnton, N. C.:

This paper, to my mind, is one of the most important papers that has been read before the society. We, who have been in surgery for a number of years and who have observed things, all know that much surgery is being done that should not be done. The American College of Surgeons, as the speaker said, has done much to clean up surgery in this country, but still there is much more to do. I wonder if it would not be a good idea for the medical profession to adopt a rule the legal profession uses, to have on one side a doctor to prosecute a case, another on the other side to defend the case, and a doctor judge to stand up and decide definitely whether this

case should or should not be operated upon. You know that all of us surgeons operating room, he is, as we so often express it, the "cock of the walk." There is no one to question him at all. I know when I go into my operating room if I decide to operate, I go ahead. The assistants, as a rule, say nothing. The surgeon has more authority than the President of the United States, in a sense. You know that all surgeons operate on patients who should not be operated on. If we are honest and conscientious in our actions, then all right, but we know there are many operations performed that should not be. These, of course, are done by the over enthusiastic surgeon, who, I fear, in some cases is more interested in the fee than he is in the welfare of the patient.

As Dr. Leigh said, it is time to clean up surgery, and the best way to do this is to first cleanse the men who are presuming to do surgery.

DR. ADDISON G. BRENZER, Charlotte, N. C.:

The trouble lies not only in the man's conscience and what he would like to do, but what he is able to do. Some time ago I was called to see a patient who had a perforated duodenal ulcer. At the same time there was a girl in the ward who had had an ovarian cyst operation. Things were bunched up in the lower abdomen and she had a pulse of 140. I think the attitude was to let her wait over night, although she was showing symptoms of intestinal obstruction. She was given a little salt solution and put on the table. There were three loops of intestine caught up by adhesions, and part of the intestine was gangrenous. That patient got by, and so did the one with duodenal ulcer. All the paraphernalia was there; the stage was all set; but the acting was very poor. It is said at the hospital that patients with perforated duodenal ulcers always die, but as a matter of fact they do not. In most cases I think we have to do a gastro-enterostomy. So it does seem a shame that, just because you can get your material, get your paraphernalia, and put your actors on who can act up to a certain point and no further, so many people are sacrificed in that way. Of course, it is a hard row, and everybody can not get the elaborate training which is needed. So there comes the question—can you bar this man in his progress? He will probably build him-



self up and improve, but can you restrict him to the limited work he can do?

DR. R. B. McKNIGHT, Charlotte, N. C.:

I heard the astounding statement made yesterday by Dr. Willis that the death rate from goiter operations is increasing—and also that from appendectomy. Dr. Brenizer tells me that he has not had a death following a thyroidectomy in several years. Yet we know that Dr. Willis' figures are true; they are right; there is an increase in mortality from various operative procedures and such an increase is certainly a grave reflection on honest and conscientious surgery. Let me cite at least three instances: A patient had a severe pain in the right lower quadrant, with temperature and the other symptoms of an acute appendicitis; the attending doctor was not sure of his diagnosis, and gave the patient a large dose of morphine so as to ease the pain, as he was afraid some other man would see him and get the case. This was reported at a medical society meeting. Another case: A patient of mine, on whom, after careful study, I had refused to operate, as he was an out and out psychoneurotic, was taken to a hospital in one of his neurotic states. A certain doctor saw him there, made no examination, asked no questions, but merely laid his hand on the abdomen with the remark: "Yes, you will have to be opened up the first thing tomorrow morning." Fortunately, I was able to prevent this tragedy. Finally: During my service at the Mayo clinic, I know of several patients who presented the symptoms with which one is readily familiar—they had had "gastro-enterostomies" done elsewhere in which the stomach had been anastomosed to the colon! It is due to such instances and poor judgment on the part of men too anxious to operate—usually poorly prepared surgeons, or oftentimes those with no preparation at all—that such an increase in mortality

from ordinarily simple and easy procedures is evident. The trained man does not have such an increase. It is those who are poorly prepared—and something ought to be done about it.

DR. SOUTHGATE LEIGH, Norfolk, Va. (closing):

I believe a very large part of the increased mortality, which has been referred to several times, is due to operations by general practitioners having practically no experience in surgery, expecting to find simple conditions. Those of us doing surgical work know that we never can tell whether a case is going to be simple or complicated. The supposedly simplest appendicitis operation sometimes turns out to be the most difficult one; and there, of course, is where experience and training comes in. It is a dreadful state of affairs, gentlemen, that men who have had no surgical training at all should be permitted to operate on people simply because people are willing to be operated upon; and it is especially strange since the American College of Surgeons has done so much in its attempt to educate the public. The people still seem to have no idea as to the difference between a medical man and a surgeon. A doctor is a doctor to most of them. People go to quacks because they claim to do certain things. It is just as bad for a general practitioner, who has not had the proper training to do an abdominal operation as for a quack to treat the patient. I think the more we can talk about these things the better it will be; I think it will have a great deal of influence both on the profession and the public. The American Medical Association has a special council on hospitals to cover this problem and to co-operate through that council with the American College of Surgeons. I wish this society could take some such steps, also.



# AN ADDRESS on CARDIAC DISEASE IN CHILDREN\*

WILBURT C. DAVISON, M.D.

Duke University

Durham, N. C.

Heart disease in children is comparatively frequent, for during the period from 1913 to 1923, inclusive, it occurred in one child out of every eighty at the Harriet Lane Home of the Johns Hopkins Hospital. The congenital type is only one-half as common as the acquired but the case fatality is somewhat higher (Table I). However, if the patient with congenital heart disease does not die, he rarely has cardiac symptoms while only one-third of the children who do not succumb to acquired cardiac disease can lead a normal life. The prognosis in both congenital and acquired cardiac disease is worse in patients who have enlargement of the heart and cyanosis.

be too high. Another cause for an erroneously high case fatality rate is that a child might die of pneumonia or some other disease and a patent interventricular septum or other congenital defect, discovered at autopsy, might be recorded as the cause of death.

(A) *Congenital cardiac disease.* The various anatomical defects which are responsible for congenital cardiac disease have been adequately described by Abbott<sup>1</sup>. The three most common malformations—patent interventricular septum, patent ductus arteriosus and pulmonary stenosis, can usually be diagnosed by the physical signs and by logical reasoning, although many physicians content themselves with the mere diagnosis of con-

TABLE I. Case fatality in cardiac disease in children.  
(All of the cases in the Harriet Lane Home from 1913 to 1923, inclusive.)

Result	Congenital	Acquired	Total
Dead*	59 (77%)	79 (61%)	138 (67%)
Alive**	18 (78%)	51 (35%)	69 (46%)
Unknown	69	193	262
Total***	146 (51%)	323 (69%)	469†

\*Case fatality in brackets is exclusive of unknowns.

\*\*Percentage in brackets refers to those who are alive without cardiac symptoms.

\*\*\*Percentage in brackets indicates the case distribution, i.e., the percentage of the total cases.

†Total case incidence 12.35 per 1000 (based on 38,000 patients in the Harriet Lane Home, 1913 to 1923); congenital case incidence 3.85; acquired case incidence 8.5.

It should be emphasized that in a statistical study such as this, there are several causes of error. These figures are based upon the records of a heart clinic which Dr. Francis R. Dieuaide and I conducted from 1921 to 1923. We endeavored to obtain a report in regard to every child who had had a diagnosis of cardiac disease in the Harriet Lane Home, and the case fatality rates are calculated only from the patients of whom we have definite records. It is, however, possible that in some children who had congenital or acquired heart disease without symptoms the diagnosis of cardiac disease was not made and consequently the case fatality rates may

genital heart disease. These defects may occur separately, though they frequently are associated. If a patent foramen ovale is excluded on the ground that it is so common and so harmless as to be normal, the most prevalent defect is a patent interventricular septum. It produces a loud, rough, systolic murmur, which is best heard over the right ventricle. Enlargement of the heart, cyanosis and other symptoms are usually absent. It is often assumed that this malformation, when unaccompanied by other defects, is relatively innocuous but among thirty patients of whom accurate records were made sixty-three per cent died (Table II). Only two of the eleven who survived had cardiac symptoms and it is a common experience to see some of these patients leading normal adult lives.

\*Delivered before the Tri-State Medical Association of the Carolinas and Virginia, Virginia Beach, Va., February 14th.

TABLE II. Case fatality in congenital cardiac disease in children.

Result	Patent I. V. septum alone	Patent ductus arterios. alone	Pulmon. stenosis alone	Patent I. V. sept. & ductus arterios.	Patent I. V. sept. & pulm. stenosis	Patent ductus arterios. & pulm. stenosis	Other types †‡	Total
Dead*	19 (63%)	5 (62%)	4 (100%)	3 (100%)	5 (83%)	1 (50%)	22 (83%)	59 (77%)
Alive**	11 (82%)	3 (100%)	0	0	1 (100%)	1 (0%)	2 (50%)	18 (78%)
Unknown†	35	7	5	2	0	0	20	69
Total***	65 (45%)	15 (10%)	9 (6%)	5 (3%)	6 (4%)	2 (1%)	44 (31%)	146

\*Case fatality in brackets is exclusive of unknowns.

\*\*Percentage in brackets refers to those who are alive without cardiac symptoms.

\*\*\*Percentage in brackets indicates the case distribution, i.e., the percentage of the total cases.

†‡5 were mongolian idiots and 3 others were also diagnosed endocarditis.

††10 had idiopathic hypertrophy alone, 5 dead; 1 had transposition of vessels alone, fate unknown; 1 had transposition of vessels and patent I. V. septum, dead; 1 had dextrocardia and patent I. V. septum, dead; 1 had patent I. V. septum, pulm. stenosis and idiopathic hypertrophy, dead; 1 had ectopia cordis, dead; 1 had heart block alone, alive; 28 were unclassified, 13 or 93% dead, 14 unknown

A patent ductus arteriosus, which is a failure of closure of a fetal vessel, rather than a true malformation, produces a so-called "machinery" murmur, which is continuous, although louder during systole. It is best recognized over the second and third left interspaces. When this condition occurs alone, its lack of symptoms and its effect on case fatality are similar to that of a patent inter-ventricular septum. However, if these two defects occur together, as they occasionally do, the patient apparently has little chance of recovery (Table II). It is, of course, extremely difficult to diagnose a combination of these two defects during life and the high case fatality in our records may be erroneous because of failure to recognize the two lesions in other children who are still alive.

Pulmonary stenosis rarely occurs as a single malformation, but judging from the four patients whose course was known it is usually fatal. Its murmur is loud and systolic, and is best heard over the second and third interspaces. When unaccompanied by other defects, extreme cyanosis and clubbing of the fingers and toes assist in its recognition. If the ductus arteriosus and either the inter-ventricular septum or the foramen ovale are patent the cyanosis may be absent except on exertion and the outlook for the patient is more favorable (Table II). In general, the associated lesions probably represent a response to a necessity. Of course, if the necessity exists and the response fails, the prognosis is bad. The outlook is probably best if the stenosis is so slight that it can be compensated by hypertrophy of the right ventricle alone.

Of the other congenital anomalies, idio-

pathic hypertrophy of the heart is the only one which is at all frequent. This condition can only be diagnosed by percussion and the x-ray; symptoms, except slight cyanosis, may be absent for several years, though it is usually fatal<sup>2</sup>. This malformation, which has frequently been described as unaccompanied by other defects, is probably secondary to stenosis or coarctation of the aorta<sup>3</sup>. The differential diagnosis of the remaining congenital abnormalities of the heart is usually too difficult and the types can only be classified at autopsy<sup>1</sup>. As a rule, heart disease which produces symptoms in the first two years of life is congenital in origin, although endocarditis and pericarditis in infants are not uncommon<sup>4</sup>, and post-diphtheritic myocarditis is sometimes seen.

The treatment, except for limitation of activity and for guarding against infections, is usually without effect. Infections, such as pneumonia, are more dangerous to a child suffering from congenital heart disease than is the strain of physical exertion. It is sometimes said<sup>5</sup> that signs of congenital cardiac disease may later disappear but this event must be extremely infrequent, for it did not occur in this series. However, adult life is not incompatible with congenital heart disease if associated anomalies of the circulation permit compensation.

(B) *Acquired cardiac disease* is twice as common as the congenital type in climates such as that of Baltimore (Table I). The incidence varies with the locality, being more frequent in cities such as London and Boston, in which the weather is damp or cold<sup>6</sup>. With the exception of a few cases of purulent pericarditis, post-diphtheritic myocarditis and in-

fections with streptococcus viridans, acquired heart disease is usually part of the clinical picture of rheumatic fever (including chorea) and, therefore, is rare until after the age of three years<sup>7</sup>. Apparently the heart in ninety per cent of the children who have rheumatic fever or chorea is implicated to a greater or less extent<sup>8</sup>. Endocarditis, myocarditis and mitral insufficiency are the most common types of damage. Although the blowing, systolic, transmitted murmur of mitral insufficiency is usually characteristic, enlargement of the heart is the best criterion of acquired cardiac disease. The diagnosis of mitral insufficiency, which is based upon auscultation alone, frequently leads to an erroneous diagnosis of organic heart disease, for a functional murmur can be heard in approximately fifty per cent of normal children<sup>7</sup>. Nearly one-half of the children whose heart disease is limited to these three conditions die within six years from the onset and only one-third of those who survive are free of symptoms (Table III). Aortic insufficiency, pericarditis and later mitral and aortic stenosis, i. e., pancarditis, are frequently present and greatly increase the case fatality. Infections with streptococcus viridans are practically always superimposed upon pre-existing cardiac lesions, either acquired or congenital, and the result is almost invariably fatal (Table III). The other forms of acquired cardiac disease—purulent pericarditis, arrhythmia, heart block, acute cardiac dilatation and tuberculous pericarditis (Pick's disease) are rather infrequent as compared with rheumatic carditis.

The treatment in the majority of cases of rheumatic heart disease is limited to rest in bed, restricted exercise<sup>9</sup>, ample diet and the administration of iron to combat the anemia which is so frequently present<sup>10</sup>. If the patient's weight can be increased his outlook is much more hopeful<sup>11</sup>. If decompensation develops the use of digitalis in large doses is beneficial<sup>12</sup>. This drug in the doses ordinarily given to children has been frequently condemned as useless, but if edematous children suffering from rheumatic heart disease are given 0.2 grams (3 grains) of the dried leaves of digitalis (in capsules) every six hours until nausea develops (4 to 8 doses) and then 0.1 gram (1½ grains) twice a day, the edema usually disappears, the patients' comfort is increased and life is prolonged<sup>12</sup>.

The prognosis in rheumatic carditis is bad, especially if the heart is badly damaged by the first attack of rheumatic fever or chorea. In more than half of the patients whose hearts became decompensated this condition developed within six months of the onset of the first attack of rheumatism. Even though the patient may recover from the first attack, the infection usually returns with consequent increasing damage to the heart. As soon as the patient is afebrile his tonsils, adenoids and other sources of infection should be removed but it must be remembered that the benefit from tonsillectomy in preventing subsequent infections has been overestimated<sup>13</sup>. If possible, the patients who survive the first attack should live in localities such as the Piedmont section of the Carolinas, Texas or

TABLE III. Case fatality in acquired cardiac disease in children.

Result	1	Aortic insuff., endo., myo. & mitral insuff.	Pericard., endo., myo. & mitral insuff.	Mitral steno., endo., myo. & mitral insuff.	Pericard. alone	Strept. virid.	Other forms	Total
	Endocard., myocard. & mitral insuff.							
	(1)	(2)	(3)	(4)	(5)	(6)		
Dead*	33 (47%)	8 (62%)	9 (69%)	7 (77%)	14 (93%)	7 (100%)	1 (33%)	79 (61%)
Alive**	37 (32%)	5 (20%)	4 (50%)	2 (50%)	1 (0%)	0	2 (100%)	51 (35%)
Unknown	126	22	13	25	0	0	7	193
Total***	196 (60%)	35 (11%)	26 (8%)	34 (11%)	15 (5%)	7 (2%)	10 (3%)	323

\*Case fatality in brackets is exclusive of unknowns.

\*\*Percentage in brackets refers to those who are alive without cardiac symptoms.

\*\*\*Percentage in brackets indicates the case distribution, i.e., the percentage of the total cases.

(1) 2 also had tricuspid insuff. (1 D, 1 U).

(2) 3 also had aortic stenosis (1 A, 2 U).

(3) 11 also had aortic insuff. (5 D, 1 A, 5 U); 6 also had mitral stenosis (1 D, 1 A, 4 U).

(4) Probably not rheumatic; terminal infections.

(5) 4 also had acquired cardiac disease and 3 congenital.

(6) 8 had arrhythmia including extra systoles (2 A, 6 U); 1 had heart block alone (1 U); 1 had acute cardiac dilatation (1 D).



Southern California, in which there is probably less likelihood of a subsequent infection with the virus of rheumatic fever or chorea, since in these areas these diseases are less frequent. However, only the future can tell whether a child who has had rheumatic fever will be free of reinfections in a locality in which the disease is uncommon, for it is possible that a second attack of rheumatic fever is not a true re-infection in a patient who is susceptible to the disease but merely represents an exacerbation or relapse of the original infection. Nevertheless migration to a state in which the disease is infrequent is a chance well worth taking. These re-infections do far more damage than any amount of physical exertion and strain. In contrast to adults, it is extremely rare to see a child whose heart has become decompensated as a result of over-exertion. A child's heart has much more muscular reserve than has that of an adult, as is demonstrated by their reactions to transfusions. Ten c.c. of blood per pound of body weight are frequently and safely given to children, while an adult weighing 150 lbs. occasionally becomes cyanosed if 6 c.c. per lb. (900 c.c.) are administered. For children who are suffering from streptococcus viridans infections, no treatment seems to be successful; blood transfusions, the intravenous injections of antiseptic dyes and the use of sodium cacodylate and other arsenic compounds in large amounts have not so far been beneficial.

## BIBLIOGRAPHY

1. Abbott, M. E., *Congenital Heart Disease*, Phila. and New York, 1915, Lea & Febiger, pp. 449.

2. Howland, J.: *Idiopathic Hypertrophy of the Heart in Young Children*. Contributions to Medical and Biological Research. Dedicated to Sir William Osler, New York, 1919, Paul B. Hoeber, 582-599.

3. Carrington, G. L., and Krumbhaar, E. B.: So-called Idiopathic Cardiac Hypertrophy in Infancy. *Am. J. Dis. Child.*, 1924, 27, 449-455.

Bruce, J. W., and Ball, R.: Coarctation of the Aorta. *Am. J. Dis. Child.*, 1926, 31, 196-200.

4. White, P. D.: The Incidence of Endocarditis in Earliest Childhood. *Am. J. Dis. Child.*, 1926, 32, 536-549.

5. Coleman, W.: The Prevention of Certain Forms of Chronic Cardiac Valvular Disease. *J. Am. Med. Assn.*, 1923, 81, 206-209.

6. Faulkner, J. M., and White, P. D.: The Incidence of Rheumatic Fever, Choreia and Rheumatic Heart Disease. *J. Am. Med. Assn.*, 1924, 83, 425.

7. Holt, L. E., and Howland, J.: *Diseases of Infancy and Childhood*. 9th ed., New York and London, 1926, D. Appleton & Co., 481.

8. Thayer, W. S.: The Minimum Symptoms and Signs Necessary to Make a Diagnosis of Organic Heart Disease. *N. Y. Med. Jour. and Record*, 1923, 107, 525-528.

Cohn, A. E., and Swift, H. F.: Electrocardiographic Evidence of Myocardial Involvement in Rheumatic Fever. *J. Exper. Med.*, 1924, 39, 1-36.

9. St. Lawrence, W.: The Problem of Exercise for Children with Heart Disease. *J. Am. Med. Assn.*, 1927, 89, 2235-2238.

10. Osler, W.: *The Principles and Practice of Medicine*, 8th Ed., New York and London, 1918, D. Appleton & Co., 374.

11. McCulloch, H.: Gain in Weight as Guide in Convalescent Care of Cardiac Children. *J. Am. Med. Assn.*, 1926, 87, 967.

12. Jacobson, A. W., and Davison, W. C.: Digitalis Therapy in Cardiac Decompensation in Children. *Am. J. Dis. Child.*, 1926, 32, 373-383.

13. Ingerman, E., and Wilson, M. G.: Rheumatism: Its Manifestation in Childhood Today. Tonsillectomy in Its Relation to the Recurrence of Rheumatism. *J. Am. Med. Assn.*, 1924, 82, 759-764.

Kaiser, A. D.: Tonsillectomy in Children. Indications Based on End Results. *J. Am. Med. Assn.*, 87, 1012-1015; *idem*, Incidence of Rheumatism, Choreia and Heart Disease in Tonsillectomized Children: A Control Study. *J. Am. Med. Assn.*, 1927, 89, 2239-2243.



## RESULTS OF THE SURGICAL TREATMENT OF EXOPHTHALMIC GOITER\*

CARRINGTON WILLIAMS, M.D., F.A.C.S.

Attending Surgeon to St. Luke's Hospital  
Richmond, Va.

This paper is an analysis of 100 consecutive cases of exophthalmic goiter operated on in the McGuire Clinic. Thirteen cases were not traced, so the report is based on the clinic records and replies to questionnaires of 87 patients. Unfortunately, much desirable data is lacking on many cases and resulting from these deficiencies the totals of the various items will not represent the total number of patients.

In order to interpret end results properly it is necessary to give certain facts regarding these patients when they presented themselves at the hospital for treatment and also to mention very briefly the method of treatment.

On admission to the hospital they were put to bed, given as complete rest as possible, put on a full general diet, given Lugol's solution 30 to 45 drops daily and when the proper time arrived, operated on. The operations were all sub-total thyroidectomies done in one stage without preliminary ligations except in two cases where lobectomies were done in two stages on account of the precarious condition of the patients. Following the operation Lugol's solution was administered and the patient advised to continue it for a period of three months.

When infection was found in the upper respiratory tract appropriate measures to eradicate this infection were carried out before the patient was discharged or early treatment was advised.

In analyzing the figures of the various items it is remarkable how truly the *average* figure represents the real general condition of the group, but in order to show in more detail the distribution of the various rates, tables have been prepared of this distribution.

Of the 87 patients only 11 were men.

The ages of the patients averaged 33 years, the youngest was 17 and the oldest 65 years.

The distribution of the various ages is shown in Table 1.

TABLE 1  
AGE OF PATIENTS  
Average 33 years

Youngest 17 years	Oldest 65 years
Distribution	
17 to 20 years	13
21 to 30 "	25
31 to 40 "	26
41 to 50 "	17
51 to 60 "	5
61 to 70 "	1
Total	87

Nervousness and tremor were symptoms of practically all the patients.

Loss of weight was quite marked, the average being 23 pounds. One patient gained 10 pounds during her illness and three had not changed. There were many records where accurate figures were not available. The distribution of the loss of weight is given in Table 2.

TABLE 2  
LOSS OF WEIGHT  
Before Operation  
Average Loss 23 lbs.

Least loss 5 lbs.	Greatest loss 75 lbs.
Distribution	
No loss	3
5 to 10 lbs.	16
11 to 20 "	11
21 to 30 "	8
31 to 40 "	5
Over 40 "	5
Total	48
1 patient gained 10 lbs.	

The pulse rate was taken under "basal conditions" and shows a definite tachycardia, that is a rate above 90, in all except seven cases. The average rate was 113 to the minute. The distribution of the various rates is given in Table 3.

\*Read before the Thirtieth Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.

TABLE 3  
PULSE RATE  
*On Admission to Hospital*  
Average 113

Lowest 60	Highest 160
Distribution	
Below 80 .....	2
81 to 90 .....	5
91 to 100 .....	18
101 to 110 .....	24
111 to 120 .....	17
120 to 130 .....	12
Over 130 .....	9
Total .....	87

Exophthalmos was present in varying degree in 60 per cent of the patients.

The thyroid gland was enlarged in all of them.

The basal metabolic rate was increased in all cases, the average rate being plus 51, but three cases had rates between plus 15 and plus 20, which we feel is practically within the normal limit. The rates are distributed in Table 4.

TABLE 4  
BASAL METABOLIC RATE  
*On Admission to Hospital*

Lowest rate +15	Highest rate +112
Average rate +51	
Distribution	
	Cases
+15 to +20 .....	3
+21 to +30 .....	11
+31 to +40 .....	10
+41 to +50 .....	11
+51 to +60 .....	19
+61 to +70 .....	9
Over +71 .....	11
Total .....	74

The blood pressure was definitely elevated in 22 cases in whom no other pathological basis than the hyperthyroid state could be discovered.

In 35 cases there was very definite infection of the tonsils or the nasal accessory sinuses.

There were five recurrent cases; three of these had been operated on in our clinic and two elsewhere. All were women of about 20 years at the time of the previous operation. It was reasonably certain that the primary

operation had been incomplete in three cases. This percentage (5 per cent) of recurrence is higher than our total experience would indicate; we believe that it will not be more than 2 per cent.

Three patients died in the hospital, the first from respiratory failure on the operating table before any of the gland had been removed, the second in a state of acute hyperthyroidism four days after operation, and the third of bronchopneumonia nine days after operation. This 3 per cent mortality represents our general experience with toxic goiter.

Three patients have died since leaving the hospital two, four and six months, respectively. All three had decompensated hearts prior to operation and temporarily seemed much improved. Two were women of 45 years with long-standing cardiac histories; they died suddenly without intercurrent disease. The third was a woman of 60 years who had entered the hospital with a marked delirium and her recovery after operation was spectacular. During an acute respiratory infection six months after operation the heart failed and she died.

One patient, a young woman of 21 years, had been confined in a sanatorium for five months with the diagnosis of dementia praecox. She was definitely hyperthyroid and following the operation has been mentally perfectly clear and is leading a very active and strenuous business life with marked success.

Two patients had x-ray treatment of the thyroid region before satisfactory results were obtained; it is probable that a sufficient amount of gland was not removed at these operations.

In five cases there was injury to one recurrent laryngeal nerve. All of these patients have recovered their normal voices, so it is probable that the nerve was traumatized rather than cut. However, they were not available for laryngoscopic examination and the return of the normal voice may only be by compensation of the normal cord.

One patient, a young woman of 17 years, had marked myxedema following operation. There was marked mental deterioration with the usual picture of hypothyroidism except that she had not gained weight. The basal metabolic rate which had been plus 50 before operation was minus 33 when she returned

for treatment. All of her symptoms improved markedly after sufficient thyroid extract was given and the metabolic rate was brought up to normal.

Three other patients gained weight rapidly and are able to control it only by taking thyroid extract. The metabolic rates on these patients were plus 10, plus 4, and minus 23.

The nervousness has largely been relieved but a number of them are excitable and nervous when subjected to unusual strain.

The tremor has practically disappeared in all patients.

The average pulse rate taken under "basal conditions" when the patient was ready to leave the hospital was 83 to the minute. The distribution of these rates is seen in Table 5.

TABLE 5  
PULSE RATE  
On Discharge After Operation  
Average 83

Lowest 60	Highest 116
Distribution	
60 to 70 .....	12
71 to 80 .....	33
81 to 90 .....	25
91 to 100 .....	5
Over 100 .....	4
—	—
Total .....	79

The average pulse rate reported by the patients was 78. There were seven rates above 90; these seven patients have gained from 10 to 40 pounds each in weight. Five of the seven are not conscious of the tachycardia and are apparently well; it is probable that the rates were reported too high. The other two patients still complain of the heart beat and are inclined to be nervous. The distribution of these rates is shown in Table 6.

TABLE 6  
FINAL PULSE RATE  
Average 78

Lowest 60	Highest 120
Distribution	
60 to 70 .....	17
71 to 80 .....	25
81 to 90 .....	15
91 to 100 .....	5
Over 100 .....	2
—	—
Total .....	64

The gain in weight following operation was approximately equal to the loss of weight before operation. The average gain was 22 pounds. Five patients failed to gain and three lost from 5 to 10 pounds. Some of these who failed to gain have been on "reducing diets" but all of them are apparently well. The distribution of the gain in weight is shown in Table 7.

TABLE 7  
GAIN IN WEIGHT AFTER LEAVING HOSPITAL  
Average 22 lbs.  
Smallest gain 5 lbs.      Greatest gain 50 lbs.  
Distribution

No gain .....	5
5 to 10 lbs. ....	14
11 to 20 " .....	25
21 to 30 " .....	15
31 to 40 " .....	9
Over 40 " .....	2
—	—
Total .....	70
1 lost 10 lbs.	
2 lost 5 lbs.	

Exophthalmos was reported to be unchanged in 11 cases, to be improved or to have disappeared in 39 cases, and more marked than before operation in one patient. Three of those reporting improvement said that the eyes were now unequal, one being more prominent than the other.

The basal metabolic rates done when the patients were ready for discharge from the hospital were from minus 23 to plus 28. The

TABLE 8  
BASAL METABOLIC RATE  
After Operation

Lowest rate -33	Highest rate + 28
Average plus rate +11	
Average minute rate -15	
Distribution	

	Cases
-33 to -20 .....	3
-20 to -10 .....	3
-10 to +10 .....	19
+10 to +20 .....	13
+20 to +30 .....	2
—	—
Total .....	40

patient with myxedema when she returned for treatment had a metabolic rate of minus 33. There are six patients with rates below minus 10, but only three of these are classed



as hypothyroid clinically. Two rates are above plus 20; one of these patients has a pulse rate of 79, has gained 13 pounds in weight and has no complaint. The other has a pulse rate of 74, the weight is unchanged and she is nervous at times. The distribution of the rates is shown in Table 8.

## COMMENT

It is very interesting and gratifying to read the expressions of approval from the vast majority of these patients, and I believe the figures presented will give the same impression. The number of patients reported is too small to justify broad conclusions but the results are typical of those obtained by operation for this disease.

## SOME PRACTICAL OBSERVATIONS ON GOITER\*

ADDISON G. BRENIZER, M.D., Charlotte, N. C.

The goiter question resolves itself, practically, into the diagnosis and treatment of:

- A Simple goiter
- B Adenomata
- C Exophthalmic goiter
- D Thyroiditis.

Simple goiter, especially in girls under twenty years, is treated with iodine alone, given in the form of Lugol's solution or sodium iodide in small doses for a period of ten or twelve days out of the month, preferably covering the time of the menstrual period. Even these patients should have a preliminary metabolic rate taken and repeated every several months. There is a real danger of overdosing these thyroids and producing a definite hyperplasia, accompanied by even severe symptoms of Graves' disease. Thus a thyroidectomy may be forced on the patient. I have seen this condition certainly three or four times. Iodine will not cure simple goiter in like manner as it prevents simple goiter where it is endemic. As a matter of fact, simple goiter, after the twentieth year is difficult to be made to disappear. Most certainly iodine is not to be dispensed from the grocery store.

Adenomata of the thyroid are either left entirely alone or are removed when accompanied by thyro-toxicosis. Almost all lumpy or nodular goiters are adenomata. At least 90 per cent of cancer of the thyroid occurs in pre-existing adenomata, usually a simple adenoma of considerable size of some time

standing. About 2 per cent of my adenomata have shown mitotic division of cells and an invasion of the stroma or capsule. Accelerated growth of an adenoma in an older person is indication for its removal. Carcinoma other than adeno-carcinoma and sarcomata of the thyroid are rare and, practically, may be disregarded. It is a mistake to try iodine, even in small doses in non-toxic adenomata—they are most frequently rendered toxic. Likewise toxic adenomata are rarely benefited by iodine. Adenomata are by no means confined to middle and late life and this teaching should be corrected. They may occur in the very young, do occur in about 20 per cent of colloid goiters and also in the gland, accompanied by exaggerated Graves' disease, contributing to the so-called mixed types and offering certain difficulties, encountered in treating these types with iodine.

Intra-thoracic goiters, usually adenomata, offer little difficulty in diagnosis, if kept in mind. They are clearly revealed in a good shadow-gram and the side from which they spring is indicated by the air in the trachea. The technical difficulties of removal are not great, if it is remembered that the blood supply springs from the neck and that they are to be gradually loosened from above downward.

Exophthalmic goiter is prepared for removal by iodine, rest and x-ray. Every case of exophthalmic goiter should be treated as if on the way to operation. An artificial remission may be produced not only in symptoms, but in metabolic rate and in the histological picture from a hyperplastic to colloid state, even

\*Read before the Thirtieth Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.

though there is a definite amount of hyperplasia yet remaining. This improvement is unfortunately very temporary, but nevertheless quite definite and beneficial if followed by proper surgical therapy. This improvement is lost not only completely but can rarely be regained at an early exacerbation, which flareup is usually more fulminating than the former one. In other words the patient gets worse than ever before and offers a far greater surgical risk. The responsibility for failure to act promptly in offering the exophthalmic goiter patient an operation during this first artificial remission, is enormous and one may be horrified by the outcome. The failure of about 10 per cent of the patients to arrive at a remission under iodine, is accounted for, not only by a tolerance or refraction to iodine, but to the fact that one is dealing with a type, mixed with adenomata or a case where the myocardium and general cellular desiccation and dissolution is beyond recovery.

Thyroiditis of the tuberculous and Riedel type are operated on. Abscesses are exposed and drained.

Chronic ligneous thyroiditis (Riedel's stroma) is, according to the opinion of most observers a chronic inflammation of the thyroid of unknown etiology. It takes a slow course, usually presents a cartilage-like, ill-defined mass of the thyroid gland, gives difficulty in breathing and swallowing and often voice changes, offers no increase in metabolic rate and usually ends in hyperthyroidism whether operated on or not. It is often mistaken for carcinoma. The opinion of Ewing, the Crile Clinic and the Lahey Clinic is that a partial bilateral thyroidectomy is the best treatment.

Although about 40 cases of tuberculous thyroiditis have been reported, the diagnosis has rarely been made before operation. The diagnosis of exophthalmic goiter or multiple adenomata has usually been made by the clinician and the true pathology only disclosed on section. One of my cases was clinically exophthalmic goiter; the removed portion was finely granular, very vascular and friable and uniform on the cut surface. The microscopic report was that, throughout, the gland was infiltrated with lymphocytes, minute tubercles and giant cells were found in the interstitial tissue. The follicles were infolded and lined by proliferating columnar

epithelium. In my second case, without Graves' disease, there were larger conglomerate tubercles with caseation and considerable fibrosis replacement. Partial thyroidectomy has been the usual treatment.

Thyroiditis is rare, probably  $\frac{1}{2}$  to 1 per cent of all operative material and  $\frac{1}{4}$  to  $\frac{1}{2}$  per cent of all observed clinical cases.

Following operations on the thyroid, especially the hyperthyroid type, for the purpose of controlling regeneration and preventing recurrence, small doses of iodine should be given to secure and maintain proper thyroid function. The two most prominent factors, we know of, in the causation of goiter are iodine starvation and the presence of infection. Either factor or both may mar an otherwise good result.

For the last fifteen years I had dismissed the parathyroid glandules from my mind, with possibly the exception of two mild reminders, no longer potent after clearing up under short time dosage with calcium lactate. A recent case of mild tetany has returned my attention to the parathyroid.

Briefly the parathyroids serve a dual purpose; first they have the power of removing certain toxic substances from the blood stream and, second, they are the essential regulators of calcium metabolism. Collip describes the action of his parathormone as producing a definite mobilization of calcium in the blood stream.

There are two facts about the parathyroid which are disturbing to any operation. In the first place, the parathyroid may be already deficient in number or potency and in the second place, they may be located on or in the thyroid gland in locations other than posterior or lateral to the gland and outside the capsule proper of the thyroid gland.

It behooves one therefore to do a blood calcium and look for Trousseau's and Chvostek's signs and examine for other milder indications of hypo-parathyroidism before undertaking a thyroidectomy.

210 Professional Building.

#### DISCUSSION

##### (Both Papers)

DR. JOSEPH L. MILLER, Chicago:

I am very much interested in this subject. I was much interested when the first speaker used the term "toxic adenoma" without using

"hyperplastic goiter." What we are really dealing with is hyperplastic goiter with an incidental adenoma. Theoretically, Plummer thought you could not help toxic adenoma with iodine, but now they are using iodine in all their hyperthyroidism. I think it is further evident that iodine helps this group quite as much as the other. It is further evident that the adenoma is an incidental affair. These are not two types of goiter clinically or two types of goiter histologically.

I should like to ask the first speaker whether those children he showed had had iodized salt before.

The last speaker referred to basal conditions; that is, at rest. I think the best way is not under basal conditions. I think the pulse rate on those people should be taken not under basal conditions, because when the early patient shows a tachycardia on excitement or exertion he may be perfectly comfortable while quiet.

I was glad the speaker called attention to the fact that the diagnosis of myxedema is clinical and not by basal metabolism. This thing of calling every patient with minus 20 a case of hypothyroidism is wrong. I think the diagnosis should be made clinically and not on basal metabolism.

Another important point is to know what becomes of these patients in five years and to learn whether we are going to have more myxedemas, and more recurrences. I do not believe we can do it with questionnaires; I think we have to see the patients personally. I had a patient with plus 70 who was operated on and now has plus 40, but she says she feels fine. The difference between plus 70 and plus 40, in her case, is the difference between discomfort and well-being.

DR. R. L. PAYNE, Norfolk, Va.:

This paper is of especial interest because of the increase in hyperthyroidism here on the coast. During the last twelve or fifteen years, previous to the last three years, we rarely saw over a dozen cases a year. During the last three years they ran 66, 62, and last year 59. Those are small numbers, of course; but here on the coast, where our people have plenty of iodine, plenty of salt air, and plenty of fish, theoretically we should not have goiter. So we have felt that this problem of increase has probably been due to the activities of the groceryman in dispensing iodized

salt. From here to Norfolk, on the beach boulevard, you can see their signs every half mile. Lots of people go into stores and get salt without knowing they are getting salt with an increased iodine content. I studied my cases pretty carefully last year, and my firm conviction is that 7 of the 59 cases were excited by the use of iodized salt. As Dr. Miller said this morning while talking to me, some people eat much more salt than others. A United States Navy blanket order has been issued that no more iodized salt shall go into the commissaries of the Navy on the eastern seaboard.

Finally, I should like to ask Dr. Brenizer, whose experience is much wider than mine, what is his view as to the use of Lugol's solution in toxic adenoma. Dr. Porter says it never does harm, but others are at variance with him. Several years ago Dr. Williard Bartlett said he had been using thyroxine. I came back and for the last three years have been using small doses of thyroxine. Apparently the thyroxine has had some beneficial effect on post-operative regeneration.

DR. ADDISON G. BRENIZER, Charlotte, N. C. (closing):

Of course, in a paper like this I just hit at some high spots.

To my mind, the use and abuse of iodine is a very important subject. On one of those young patients the iodine was pushed—in the little girl whose eyes were crossed. In the other it was not. The goiter is just a soft, watery colloid, but she was very anxious to get rid of it. These patients often use iodine salt. Then physicians often push the iodine, producing an iodine Basedow.

As to iodine in adenomata, I have seen this too many times to be mistaken. I saw a girl with simple non-toxic adenoma, a lump in the thyroid gland, with no symptoms of thyrotoxicosis, no nervousness, whose pulse very rarely went over 80. She was given iodine. There was an increase in the metabolic rate, great nervousness, pulse 190; and that girl was only stabilized when the gland was taken out.

I think iodine would help certainly that hypertrophy and hyperplasia temporarily, but not for very long. I have given iodine to toxic adenomata and have not gotten benefit. I have seen the metabolism rise and all the symptoms get worse by using iodine in both

toxic and non-toxic adenomata. The hyperplasia is increased.

The marvel to me is that before metabolism tests were made, before iodine was given, we got away with them as well as we did simply by rest, an ice-bag on the throat, etc.

Another thing to consider is the severity of the symptoms as compared with the metabolic rate. A patient may be in the hospital for three weeks and be given iodine for three weeks and resist it all along. Iodine may be given hypodermically, and the metabolic rate may be 80, still; but that patient may make a wonderful course when operated on. Again, in another patient we may get it down to 20, and that patient may not do so well. They do not follow *pari passu* with the metabolic rate.

DR. CARRINGTON WILLIAMS, Richmond, Va.  
(closing):

Some years ago, when Dr. Plummer described toxic adenoma and exophthalmic goiter, it seemed to me a very clear definition, and

we followed it. I have weakened somewhat, however. It seems to me there are quite a number of cases of nodular goiter which are very different from exophthalmic goiter. They do not have exophthalmos, some cases of exophthalmic goiter do not have it. They are older people. I believe the truth lies somewhere between Plummer's original ideas and what is now being taught.

I believe it is a very important thing to determine the pulse rate under basal conditions, particularly if you are going to use that pulse rate as an index in the diagnosis of the disease. In other words, the pulse rate that counts in the diagnosis of exophthalmic goiter is the pulse rate when the patient is lying quietly in bed, approximating the conditions under which basal metabolism is taken.

As to the use of iodine in adenoma, we have certainly not seen a case which was done any harm by the administration of iodine, although we might make the diagnosis of toxic adenoma.

## THE ROENTGEN-RAY IN THE DIAGNOSIS OF THE DISEASES OF DUODENUM AND GALL BLADDER\*

FRED M. HODGES, M.D., Richmond, Va.

The duodenum and gall-bladder are to be considered together in this paper, since they are formed from the same structure in the fetus, the gall bladder actually arising from the duodenum, and since both structures are closely related anatomically and physiologically. Clinically and radiographically, it is impossible in many instances to determine whether certain symptoms are due to gall-bladder disease or to ulcer of the duodenum. Frequently both are involved, i. e., there may be gall-bladder disease and ulcer of the duodenum or there may be gall-bladder disease with adhesions which involve the duodenum.

Where there are clear-cut hunger pains occurring one, two, or three hours after food and relieved by food, usually an ulcer is present. On the other hand, especially in patients beyond thirty-five years of age,

eructation, gaseous distention, discomfort in the upper abdomen after eating, etc., usually mean gall-bladder disease. Hematemesis, hyperacidity, positive string tests, jaundice, increase in the icterus index, hypoacidity, pus in the bile, etc., are of great value in the differential diagnosis; but in many instances the history and other findings are meager or indefinite.

The majority of patients seeking medical advice have no clear-cut symptoms and a definite diagnosis is practically impossible from the history and physical examination. In the hands of an experienced roentgenologist ulcer of the duodenum can be diagnosed in more than ninety per cent of the cases. By using the Graham dye test in gall-bladder disease, it has been possible to demonstrate around ninety per cent of diseased gall-bladders in those patients operated upon. This, however, does not prove that some gall-bladders which are moderately diseased are not missed by this method.

\*Read before the Thirtieth Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.



Before Graham discovered the dye test, Case, Cole, and others were able to diagnose disease of the gall-bladder in about eighty per cent of cases by indirect signs shown by the barium meal examination. The most important of these signs were regurgitation of material from the stomach into the esophagus, spasm of the pyloric antrum, and adhesions about the gall-bladder which involved the duodenum, the colon, or both. The Graham dye test enables us not only to show a large number of gall-stones which were previously not found, but also shows disease of the gall-bladder where there are no stones or adhesions and gives accurate information as to the function of the gall-bladder.

The physiology of the gall-bladder at the present time is very well understood. According to Whataker, "(1) It stores bile during fasting owing to its relaxation of the musculature and to concentration by the absorption of water through its mucous membrane, and (2) it empties this stored bile into the duodenum during digestion by muscular contraction." By animal experimentation he has shown that the gall-bladder actually contracts and expels its contents.

Numerous studies of the cause of the emptying and contraction of the gall-bladder have been made and many drugs and foods have been studied for their effect upon the emptying of the gall-bladder; and as far as is known at the present time, absorption of fats and fatty acids from the intestine causes the quickest and most complete response.

From a practical standpoint it is very important to know in ulcer of the duodenum whether or not there is associated gall-bladder disease, since regardless of the type of ulcer, medical treatment would not be considered if definite gall-bladder disease were present. The associated pathologies can usually be determined only by an examination of both structures, i. e., a dye test and a barium meal study.

In ulcer of the duodenum there is frequently very little thickening of the tissues around the ulcer, and occasionally an ulcer will be overlooked by the surgeon unless suspected prior to operation. Therefore, when cholecystectomy is to be considered, preoperative studies should give as much information as possible about the duodenum.

In other words, if the best work is to be

done and the most information to be gained from the work of the roentgenologist, practically every gall-bladder examination should be accompanied by a barium meal study. In young people with definite ulcer symptoms the dye test is not necessary; but in older patients it is, unless a demonstrated lesion in the duodenum is thought to be responsible for all the symptoms, and is typical of ulcer.

In the diagnosis of duodenal and gall-bladder disease, the physiology of the duodenum is only of definite interest in so far as it applies to motility, since slight disturbances in the movement of material through the duodenum may cause definite symptoms.

Quoting from Ivy: "Dragstedt and Dragstedt have shown that pressure around the duodenum equal to six inches of water is enough to cause duodenal obstruction and death. A good deal less pressure will cause some obstruction, hyperperistalsis, nausea, and occasionally vomiting and toxemia." The duodenum is probably more sensitive to slight degrees of obstruction than any other portion of the gastro-intestinal tract. Motility in the duodenum consists of peristalsis, rhythmic segmentation, reverse peristalsis, and peristaltic rushes. Some physiologists believe that duodenal peristalsis is separate and distinct from gastric peristalsis, while others believe that gastric peristalsis may pass over the pylorus or the stimulus may pass the pylorus.

Since using the dye test we have shown several defects in the duodenum which had been thought to be due to ulcer, to be due to adhesions between the duodenum and gall-bladder. Two of these patients had typical hunger pains which did not recur following cholecystectomy and division of the adhesions. In one of these, ulcer diet would relieve the patient for a time and before the dye test was made this with a defect in the duodenum was partially responsible for the diagnosis of ulcer and not adhesions. The fact that frequent feedings will relieve so-called hunger pains does not always mean that an ulcer is present. Hunger pains do occur where only adhesions can be demonstrated. If a defect in the duodenum is not typical of ulcer, the dye test will frequently give very material aid in making the differentiation between ulcer and gall-bladder disease. Adhesions around the gall-bladder and duodenum which actually

give symptoms are probably more frequent than is usually supposed.

The duration of the history, the treatment received, the number of recurrences, the amount of obstruction present, the amount of deformity of the duodenum and the size and depth of the niche should be taken into consideration in determining whether a duodenal ulcer should be treated medically or surgically.

Chronic duodenal obstruction beyond the cap, either of the persistent or intermittent type, is not very rare; and unless the evidence is clear-cut for ulcer or gall-bladder disease, a low grade of obstruction should be considered. Obstruction may be due to kinks at the junction of the first and second portions of the duodenum and at the duodeno-jejunal juncture or may be due to congenital or acquired bands or adhesions involving any part of the duodenum. Ulcers, foreign bodies, tumors, pressure by superior mesenteric artery, etc., are responsible for a few cases.

Duodenal ulcer is about ten times as frequent as gastric ulcer. It is therefore evident that the majority of patients suffering with discomfort in the upper right abdomen have either duodenal ulcer, partial obstruction of the duodenum, or gall-bladder disease.

Carcinoma of the stomach or colon, chronic appendicitis, etc., may cause symptoms simulating ulcer, chronic obstruction or gall-bladder disease; but physical examination, laboratory tests and barium meal studies will usually eliminate these.

#### CONCLUSIONS

1. In the study of gall-bladder disease, duodenal ulcer, and partial obstruction of the duodenum, the symptoms are frequently indefinite or misleading.

2. It is very important, if medical treatment is to be considered in ulcer, to eliminate disease of the gall-bladder.

3. Disease of both structures is sufficiently frequently associated to demand as accurate information as possible in regard to the condition of both.

4. Neither the dye test nor barium studies alone will give this information; but by combining the methods some defects of the duodenum now being treated for ulcer, will be proven to be due to gall-bladder disease with adhesions; and the cause of more symptoms

referable to the upper right abdomen will be found than is possible by the use of either method alone.

1000 West Franklin Street.

#### Discussion

DR. CARRINGTON WILLIAMS, Richmond, Va.:

I think it is always rather dangerous to discuss an x-ray paper with so many x-ray men present, but I shall get started before they do. I agree pretty thoroughly with almost everything Dr. Hodges has said. He hit the nail on the head in regard to what we might call the weakness of the Graham test when he said that so many gall-bladders are missed in this test. I do not think you will find many cases in which the roentgenologist says pathology is present in which you will not find pathology. I know of one or two where the test was called negative where pathology was found at operation. Altogether, it seems to me an extremely satisfactory examination and certainly much more accurate than any clinical observation we can make.

I think Dr. Hodges has stressed the association of gall-bladder pathology with ulcer rather more than it deserves. Of course, we occasionally find a diseased gall-bladder with ulcer, but not so often as he suggests. I do not know whether he meant to suggest a routine gastro-intestinal examination in cases of suspected gall-bladder disease, but I think that is carrying x-ray examination a little too far. Of course, with the abdomen open we can get a good deal of information about ulcers that the x-ray man can not get, but I believe they will pick up probably a considerably larger number of small ulcers by x-ray examination than will the exploring surgeon. Those ulcers will be of the stomach, high up on the lesser curvature of the stomach. Altogether, I think our x-ray friends are going to give us very valuable aid in the discovery of these ulcers.

DR. WARREN T. VAUGHAN, Richmond, Va.:

If I understand Dr. Williams, his view is that where gall-bladder pathology has been demonstrated it is not a good thing to make x-ray studies of the gastro-intestinal tract. I suppose his viewpoint is that if the patient is going to be operated on the surgeon can make an exploration. But the surgeon misses

duodenal ulcer as often as anybody else. I think if a person is to be operated on it is up to the rest of us to give the surgeon as much aid as possible. My experience has been that gall-bladder disease and ulcer often occur together. The more thorough the study of the gastro-intestinal tract, including the gall bladder, stomach, intestines, and large intestine, the less numerous will be our diagnostic errors.

DR. M. O. BURKE, Richmond, Va.:

I should like to ask the roentgenologists and surgeons what effect arsenical poisoning has upon the gall-bladder and if, following arsenical poisoning, we find the gall-bladder is thickened, about the advisability of an operation.

DR. J. T. MCKINNEY, Roanoke, Va.:

It has been my experience in following ulcers and observing them from time to time that you will diagnose a duodenal ulcer, the patient will be treated for a long time by medical treatment, and then later you will begin to find that the patient's symptoms to some extent change, and by further observation and study you will find an associated cholecystitis. I recall three or four cases I have been watching, with typical ulcer symptoms, relieved by medical treatment; and within the last two months we have found definite gall-bladder disease associated with the ulcer. Two of these have come to operation, and we have found definite cholecystitis with ulcer. Dr. Hodges has certainly brought up an interesting subject, and I know of no more difficult task in medicine than to differentiate between duodenal ulcer and cholecystitis, and also chronic appendicitis. There is a type of ulcer called the ..... ulcer, a slit-like ulcer which is often missed by the surgeon. I recall one case in which a diagnosis was made of duodenal ulcer. The patient did not improve under medical treatment and was finally operated upon. Even after the surgeon opened the duodenum he could not find the ulcer. The patient has not improved; he was in my office the other day. He still has symptoms of ulcer, and I feel sure he has one.

DR. A. L. GRAY, Richmond, Va.:

I want to say that practically everything Dr. Hodges has said is entirely in accord

with the views of most of us who do x-ray studies. If for any reason only one of these examinations can be made, I believe it is more important to do the gastro-intestinal (that is, the stomach and duodenum) examination than it is the gall-bladder. I think that should be done first if both of them can be made.

I do not exactly agree with Dr. Williams that these cases should not all have gastro-intestinal examination made. Whenever it is possible to do it, I think they all should have both examinations.

Now, as to the accuracy of the gall-bladder test, Dr. Hodges has given you the experience of most of us, that at least ninety per cent have been proven at operation to be correct. In a series of 77 cases which we recently had, 45 came to operation, and the percentage of accuracy was 91.8. Of the two errors in diagnosis which we conceded, one had catarrhal jaundice and the other had a duodenal ulcer. It is well known to those of us doing these gall-bladder tests—well known now, at least—that these conditions may result in a positive gall-bladder test.

DR. JOHN P. WILLIAMS, Richmond, Va.:

As to making both examinations, I think if the duodenum shows a defect there is good reason for doing a cholecystogram to see if there is disease of the gall-bladder which might be responsible for the duodenal defect. On the other hand, if you make the cholecystogram first and get definite indications of gall-bladder disease, I can not see what is the advantage of following that up with the barium meal; because if there is a defect in the duodenal bulb there will be considerable difficulty in deciding whether that is due to gall-bladder disease or duodenal ulcer. The course of treatment will be the same. If a person has duodenal ulcer and gall-bladder disease he will be operated on, the gall-bladder will be removed, and the ulcer will be treated medically. On the other hand, if the person has gall-bladder disease and no ulcer, the procedure will be the same—go in and remove the gall-bladder and break up adhesions. The presence or absence of a duodenal ulcer may be determined at operation.

I recall the case of a young lady who had had arthritis for two years. Everything in the world was done, and no cause for it could be found. The gall-bladder was the only pos-



sible source of infection which had not been investigated, so even though there were no gall-bladder symptoms, I took a cholecystogram, which showed definite pathology. I explained to her that there was no possible way of determining whether the arthritis was due to the diseased gall-bladder, but she was willing to have the operation, so it was done. A few weeks afterwards her arthritis was very much improved, except in one knee in which there was fibrous ankylosis. She went home and was to come back for physiotherapy but wrote that she was so much improved she thought it was not necessary.

DR. VAUGHAN:

I understood Dr. Gray to say that there was one case of gall-bladder disease in which ulcer was later found to be present. Were barium studies made on that case?

DR. GRAY:

They were not.

DR. VAUGHAN:

There is the answer right there. There is no need of saying anything else.

DR. J. L. TABB, Richmond, Va.:

Suppose the cholecystogram had been positive, and suppose the patient had had the stomach and duodenum examined and we had found there was deformity of the duodenal bulb. I am like Dr. Williams; unless that deformity showed some particular niche—in other words, perforating duodenal ulcer—I do not see how we could tell whether it was the ulcer causing a positive cholecystogram or whether we were dealing with a pathological gall-bladder with periduodenal adhesions simulating ulcer.

DR. DEWITT KLUTTZ, Greenville, S. C.:

I had two cases, neither of which showed filling of the gall-bladder by the intravenous method. The symptoms were vague and did not indicate anything, did not indicate ulcer in particular. There was one we could not diagnose after barium study. The first case showed retention; it was in the stomach four or five days later. The stomach was very large. The cap did not show. Operation showed no ulcer. The second case was operated on and showed no ulcer, but an inch or an inch and a half from the cap showed adhesions. That patient had a badly diseased gall-bladder. Incidentally, both patients died.

Autopsy showed badly diseased livers secondary to the gall-bladder condition.

DR. WILLIAMS:

Dr. Vaughan said he had answered my question, but it does not answer it at all. The second examination would not change the course of the treatment at all. If the gall-bladder is known to be diseased the only reasonable treatment is cholecystectomy and when this is done the presence or absence of a duodenal ulcer can be ascertained and appropriate medical therapeutic measures instituted.

DR. VAUGHAN:

Here is a person with symptoms suggesting gall-bladder disease. He is operated upon for gall-bladder disease, and ulcer is found. If that patient had had barium studies before the operation and ulcer were found, he might have responded to medical treatment and not have had to have the operation.

DR. WILLIAMS:

You mean he did not have gall-bladder disease, in other words?

DR. VAUGHAN:

As I understand Dr. Gray, he was found at operation not to have gall-bladder disease.

DR. FRED M. HODGES, Richmond, Va. (closing):

In reply to Dr. Burke's question about the gall-bladder after arsenical poisoning, I do not know. I have never seen such a case. We believe that in the majority of cases it is necessary to do both a gastro-intestinal and gall-bladder examination. In a case finished yesterday the gall-bladder dye test was suspicious and the gastro-intestinal examination was negative until the cecum was examined. This showed a carcinoma of the cecum. If a patient has an ulcer of the duodenum, this will frequently prevent the gall-bladder from filling properly if the dye is given orally and it is necessary to make the test intravenously.

If the duodenum has not been examined, a surgeon operating on the gall bladder may fail to find a small ulcer. If the roentgenologist has reported an ulcer and the surgeon fails to find this, usually the surgeon is correct; but very small ulcers may be overlooked at operation when they have been demonstrated by the x-ray. It has not been more



than about ten days since as good a surgeon as Dr. McGuire during an operation sent for Dr. Tabb to show him where an ulcer was.

We believe that where there is either a duodenal ulcer or adhesions around the duodenum causing some obstruction, it is important

that this be known as well as that there is gall-bladder disease. In the majority of instances enough additional information is gained by making both gastro-intestinal and dye test to justify the additional time and expense.

## SOME PRACTICAL POINTS ABOUT CYSTOSCOPY\*

R. B. DAVIS, M.D., Greensboro, N. C.

A few years ago I found myself desirous of making cystoscopic examinations. Accordingly, I sought the advice of my friend, a urologist. He told me to get the cystoscopic outfit and start to using it. This, he said, was the only way to learn how. Books also were of little value to me. I am sure, however, that if I had been given a few practical suggestions that my patients would have had less pain and I would have had more information when the examinations were over. There may be some who are in the position that I was, hence this paper.

To the patient, a cystoscopic examination is frequently a painful and much dreaded operation, done, as a rule, without any general anesthetic. To the doctor, it is a long, tedious and extensive examination. Patients have sometimes been frightened away from the physician's office, never to return, because a cystoscopic examination was made. Therefore, some may hesitate to attempt such an examination.

After making some one hundred examinations, I have found that, if the following practical points are carried out, the patient and the doctor will find the discomfort greatly decreased, and the information greatly increased. When everything works nicely, it is a most satisfactory examination. The prestige and diagnostic power of the physician are greatly increased.

Let it be emphasized in the beginning that surgical asepsis should be carried out just as in other surgical operations.

The patient should lie comfortably on the table, in the dorsal position, with the knees in the B'erhoff crutches. The thighs should be separated as far apart as comfort permits. Care should be taken that the sacrum is not

resting upon the hard table. This is often a source of discomfort. The patient's head should be slightly raised, because most patients are accustomed to sleeping on a pillow and cannot relax unless their heads are raised. It is well to raise the table some, so as to elevate the hips above the chest. This brings the urethral opening nearer on a level with the examiner's eye and also causes any fluid to run out of the drip pan into the bucket. This is important because if any fluid is allowed to remain in the pan, the sterile towel with its edges hanging over, will siphon the urine, water or medicine over the edge of the pan and allow it to drip on the examiner's trousers, socks and shoes. Mercurochrome taught me this lesson.

The doctor should sit on a stool, leaning slightly forward, in a comfortable position. An old professor used to tell us that the first step of any examination was to get yourself comfortably seated. I have since learned that he was giving a valuable piece of advice. The above position will enable the doctor to lean several inches in any direction, with perfect ease. The middle of the forearms should rest on the edges of the extended drain pan. This will steady his hands so there will be no shaking of the cystoscope; a thing which produces pain. His feet will rest comfortably on the step of the table. The stool should be low enough to enable him to focus his eye at the window, without having to bend over in an uncomfortable position.

The cystoscope is grasped in the hand, as a sound, and introduced as is a sound. Care should be taken not to put the lubricating jelly right over the lens. This blurs your vision. Before introducing the instrument, see that all connections are tight and that the light is burning with the proper brilliancy. After this, do not touch the rheostat unless the illumination in the bladder is insufficient. Then the rheostat should be turned up very

\*Read before the Thirtieth Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.

slowly. It is a very easy thing to burn out a bulb. During introduction, in the female, the left hand separates the labia and exposes the urethral opening. In the male, the left hand is used to grasp the glans.

The tip of the cystoscope should follow along the roof of the urethra. If allowed to sag, it will cause undue pain, especially in the female. It is sometimes necessary to introduce the finger in the rectum and press upward. Especially is this true in the male with an enlarged prostate. It is very helpful to have the patient breathe through the mouth during introduction. I seldom use any anesthetic but always talk to my patient during the introduction. It is surprising how they will co-operate when you encourage them and solicit their help. It is well to give a very nervous patient a small dose of morphine and atropine thirty minutes before the examination is begun. After the bladder is entered, it is well to cease maneuvering for one-half to a minute. The patient should be told that the pain is over and encouraged to relax.

The obturator is now withdrawn, the character of urine noted and a specimen obtained.

The observation telescope is now put in and the bladder filled with boric solution, which is at room temperature. I usually allow the solution to run in until the patient says the bladder feels uncomfortably full. The light is now turned on and the eye placed to the window. If the solution is cloudy from blood, urates or phosphates, it should be drained out and more put in. The room should be slightly darkened if the best results are to be obtained from the study. The cystoscope is now moved backward and forward; at the same time turned to the right and the left. You should cover the whole circumference of the bladder. Locate and study well the inter-ureteral bar and the ureteral openings. The urine can be seen spurting from the mouths of the ureters, if the solution injected in the bladder is not warmed.

The observation now being finished, the telescope is withdrawn. The thumb is placed over the outer end of the sheath which has been elevated above the level of the bladder. Very little solution escapes.

The catheterizing telescope should have the

catheters engaged before it is introduced. When the telescope is all the way in, the catheter should be pushed ten inches further before the eye is placed to the window. As soon as the rounded tip of the catheter comes into view, it is pushed no further until the ureteral opening is located. By angulating the tip with the lever it is brought in correct position for entering, then the whole scope pushed forward just enough to enter the tip.

The catheter is now pushed up to the pelvis very slowly and very gently. Never use force and never get in a hurry. If an obstruction is met, rotate the catheter and pull it back a short distance. If it will not enter now, change the angle of the catheter with the lever. If this fails, inject a little sterile water, 4 per cent procaine, 2 per cent novocaine, or a solution of 1 to 500 silver nitrate. I find that the sterile water is as good as any of the rest because so often the obstruction is due to a spasm which is overcome by gentle pressure. If these methods fail, introduce a small catheter. If even the smallest sized catheter will not pass, it is sometimes possible to insert an opaque substance and take an roentgenogram. A No. 6 or No. 7 catheter is the size most often used.

Urine that comes from the two catheters should be kept separate and examined. Normally functioning kidneys will secrete 3 to 5 drops of urine in relays. When the urine first starts to flow through the catheter, however, this is not true. Nearly all ureters go into a slight spasm during the passage of a catheter and this dams the urine up in the pelvis, raising the pelvic pressure. The rise in pressure causes the urine to flow continuously until the pressure is relieved.

Sometimes following a cystoscopic examination, the patient will almost go into a spasm with pain. The pain grows worse and worse until it requires a half grain of morphine for relief. I have found that this pain is due to a spasm of the ureter damming back the urine in the pelvis, producing an acute hydronephrosis. In these cases, if one will introduce the cystoscope again and insert a very small catheter, drawing away the urine, the pain will be almost immediately relieved. This catheter is left in for several hours and the patient is put back to bed. I believe this type of trouble is practically always the direct result of severe trauma to the ureter.

In my judgment, the doctor who handles the cystoscope gently is the one who obtains the best results. It is a fact, also, that the second examination usually does not produce as much discomfort as the first. It is well to tell patients this before they leave the office. It helps to bring them back.

To review briefly, let us say:

1. Have the patient comfortable on the table.
2. Be comfortably seated yourself.
3. Have all connections tight.
4. Get the patient to relax and breathe through the mouth.
5. Do not get in a hurry.
6. Be gentle to the  $n$ th degree.

#### DISCUSSION

DR. L. T. PRICE, Richmond, Va.:

I think we should feel indebted to Dr. Davis regarding this paper, because it incorporates all the fundamental ideas about cystoscopy which all of us have experienced in our early cystoscopic days. Everything that he mentioned is important. However, it does not make any difference how explicitly one might go through these steps from the verbal standpoint or reading it, he never knows what he is going through with until he actually does the work himself. It is only by experience we learn how to do the work. Cystoscopic work is not a thing that can be done by picking it up today and going on successfully with it tomorrow; it is a thing that requires experience more than anything else I know of.

I take the liberty of showing a few slides to show the things you may run into out of a clear sky and how, usually, to deal with the situation and accomplish every possible result at one sitting with the patient, because it is not pleasant nor always practicable to repeat a cystoscopy.

DR. M. H. WYMAN, Columbia, S. C.:

I am glad Dr. Davis wrote this paper, because the general practitioner and the general

surgeon and the man who does not do this thinks we persecute these patients terribly. And I guess we do, a lot of times. The paper is of importance from that point of view, in letting our branch of cystoscopy not be in too much disrepute with the doctors as well as the patients. There are two or three things I do. I take it for granted that I shall never have a trained assistant with me, and I have worked out my technic so I shall not need an assistant. After I have the patient ready and take my seat I do not want anybody to do anything for me. I have a table right at hand on which I have my things. I notice some urologists, after they take out the obturator and put in the sheath, let someone, an assistant or nurse or orderly, hold the catheter. Often that person will wiggle that around and cause pain.

I do not see the necessity of giving atropin with morphin. Morphine does not interfere with the secretion of urine. I find with local anesthesia it does not do much good. Occasionally, in an intensely inflamed bladder, caudal anesthesia will work wonders. If you use cocaine, use a strong solution, and go off for a while and then come back, allowing enough time for it to take effect, and usually you will get along all right.

DR. R. B. DAVIS, Greensboro, N. C. (closing):

I thank Dr. Price and Dr. Wyman for discussing the paper and am very glad they stressed the point I am trying to emphasize, that is, be gentle. Very often insufficient attention to this point makes a cystoscopic examination painful. Or the doctor and the patient get nervous, and the shaking of the cystoscope, which Dr. Wyman mentioned, causes pain and causes the patient to be more nervous. If you will stop for a minute, as he said, the patient will not get nervous and very often will come back to your office for a second treatment.





More Essays On  
**HOW THE FAMILY DOCTOR CAN INCREASE HIS  
USEFULNESS AND HIS INCOME**

Submitted for improvement of the Status of the Family Doctor—Stimulated by prizes  
offered through Southern Medicine and Surgery

DR. CARL B. EPFS, Sumter, S. C.

Only the truth is worth while. To write an essay of adulation concerning the family doctor, claiming that all is, and has been, well, would be vain flattery, unwelcome to a group that has never claimed to be perfect. A bouquet of word-roses, tied with a ribbon of deceit, soon withers. Words of candor, carved upon the tablet of truth last forever.

Where does the family physician of today find himself? Among a people whose knowledge of medical affairs is still chaotic. In a world yet filled with rank superstition. Here he finds his best efforts looked upon with suspicion and incredulity. He is reaping his heritage from a past in which medical practice was almost hopelessly tangled in a hodge-podge of magic, voodooism, witchery, astrology, and pure chicanery. How can he best present his medical science most convincingly, extricating it completely from those early shams? First, by being such a type of man, honest, earnest, and fearless, that the public will have full confidence in him; and, second, by a simple, straightforward appeal to reason. The family doctor occupies a position closest to the people. This gives him peculiar opportunities for disseminating plain medical truths. He will find eager listeners, although his efforts may often seem fruitless. Remembering what age-old handicaps he is fighting to overcome, he will not be discouraged. Suitable, brief explanations concerning anatomy, hygiene, and the causes, prevention, and treatment of diseases, will serve to convince his listeners that medical science is built upon a firm foundation of fact. We physicians are largely to blame for the present ignorance of the general public concerning basic medical truths. Our knowledge has been hidden under a bushel while the false teachings have been spread everywhere. Apparently, we have believed that all was well so long as we ourselves knew the facts, losing sight of the great value

of intelligent co-operation by the public. While our medical knowledge has been carefully guarded, often with a foolish, jealous pride, grotesque, pseudo-scientific teachings have been allowed to run rampant. The field for work against these deceptions is world-wide, and urgent. The number of medical fakirs is as the sands of the sea, running the gamut from the "spell-casters" and "root-doctors," through the christian scientists, cultists and on among the physical culturists, the quack "cancer doctors," patent medicine venders, and Abrams and Coue followers.

The medical profession is proud. This pride has been fostered from time immemorial. With nose in air and eyes fixed upon a star, the medical man has been tripped up many times, stumbling over things that are no less real because he considers that to notice them would be beneath his dignity. Each group of the above mentioned menagerie of fakers has, from time to time, furnished its quota of stumbling blocks. The destruction of these evil teachings by a direct, common-sense crusade of education would be far more worthy than to gaze sulkily on and see them destroy many lives, and cast ridicule upon the whole healing art. At present there are signs that the medical profession is beginning to faintly realize this fact.

It would be an interesting psychological study to determine just what attitude of mind has prevented the physician from making a more energetic fight against the cults. To completely ignore them is about as sensible as it would be for an army officer to pay no attention to snipers who were picking off a man here and there, or to track-wreckers who were threatening his lines of transportation. To say that it is none of our business if the public wishes to take the risk of patronizing the cults does not give much support to our claims as guardians of the public



health. These cultists are encouraging epidemics every day by teaching that it is not only useless to vaccinate against disease, but that it is exceedingly dangerous.

In order to be truly useful to the public the physician must be efficient. One of the great aids to efficiency in general, as in special practice, is the keeping of case records. Of course it is manifestly impracticable for the family doctor to keep voluminous histories of all of his patients, such as are kept in hospitals, or by specialists. But he can jot down the most important facts concerning each case attended. It is remarkable how few words are required to give a good general record of the average case. These tabloid records are of the greatest aid for future reference when the patient is seen again, and also for the preparation of scientific papers. It is pleasing to a patient to learn that you can turn to your histories and tell him what you treated him for some years ago, and the treatment given. It makes him feel that you are on the job and that you have a real personal interest in him.

The reading of recent medical books and journals is, of course, absolutely essential if you wish to keep step with scientific progress. The medical journals will serve even better than the books to give you the very latest ideas.

It would hardly seem necessary to mention the vital importance of joining and attending your local medical society. Yet, it is astonishing how many family physicians neglect this. In no other way can you keep in close touch with your fellow practitioners. It keeps you from becoming narrow and selfish in your views. For sharpening your wits there is nothing like entering into friendly discussions of your problems with others who have had similar experiences. It prevents mental and physical rust. Attendance upon state, inter-state, and national meetings serve to further broaden your conception of our great profession. It gets you away from the daily grind, supplies you with new weapons, or whets your old ones, and better fits you to be a real physician.

Unfortunately, there is a strong tendency toward petty jealousies among competing doctors. When you meet your competitor socially, and learn to know him better, you appreciate his good points more and are able

to overlook his shortcomings with more grace. There are but few things worse on this side of Hades than a nasty, back-biting, criticising attitude between men who are supposed to be devoting their few years on this earth to making it a better place in which to live. Close association, swapping yarns, and good-natured jollyng does much to drive the beast of jealousy away.

One way in which the family physician can increase his usefulness is by discouraging the use of patent medicines, whether they are sold by the blatant "doctor," with his minstrel show, or by the druggist, or sold by advertising in the newspapers and magazines. Our people love to take medicine, medicine from anywhere, and the cheapest medicine is patent medicine. Many cases of serious disease get beyond control before any other aid is sought. One of our most convincing arguments against the use of patent medicines is to stress the importance of diagnosis before treatment.

The treatment of disease by druggists has long been a real menace to public health. The family physician can do much to discourage this. One way is by writing prescriptions for official drugs and not for proprietary and patent concoctions. Far too many physicians are content to allow "specialty men" to tell them just how to treat this and that disease by prescribing certain preparations put up by their respective manufacturing houses. It is far easier to write "Phosphoridin," or "Alka-Cyst," than it is to figure out a sensible, scientific prescription to suit the individual case. Mental laziness is one of our besetting sins. Small wonder that the druggist, filling these ready-made, hand-me-down, so-called prescriptions from day to day finally decides that he had just as well push them across the counter on his own authority, and gather in the profit.

If the physician will take the trouble to learn just who the ethical druggists are, and encourage the filling of his prescriptions by them, he can do much to stop this counter-prescribing.

Right here we may mention a very bad practice that has been quite prevalent; that is, the acceptance by the physician, from the druggist, of a percentage commission on his prescriptions. This is a sorry transaction, kept secret by the physician. He is

simply robbing his patient, for of course the druggist is forced to charge a higher price for filling the prescription in order to make his usual profit. He is not only robbing his patient whom he has already charged for services rendered, but he is lowering his professional standing and self respect by accepting a bribe.

Notwithstanding the criticism and ridicule that has been aimed at the profession, medical men are really held in high esteem by the public. This places a double duty upon us to avoid questionable practices, things that would prove us less worthy of this respect. One of the chief things to be discountenanced is the division of fees between general practitioner and specialist, the so-called fee-splitting. We are well acquainted with the arguments used to justify it, but, upon close analysis, it will be found to be without justification. The general practitioner who seeks to excuse fee-splitting claims that he should receive a part of the fee for bringing, or recommending, the patient to the specialist. If this is correct, why doesn't the physician tell the patient that he will have to pay this extra fee, in addition to the charges for the physician's services in attending him, and perhaps accompanying him to the specialist? And why doesn't he collect it directly from the patient himself? If he is sure it is due him, why not be open and above board with it? Why does he want it kept secret from the patient and the general public? An honest debt does not have to be collected in the dark.

On the other hand, if the specialist feels that it is just and right for him to pay a part of his fee to the physician who refers the case, why doesn't he come right out and tell the patient:—"Now, Mr. Blank, you will have to pay me not only enough for my services but sufficient additional for me to hand over to Dr. Doe, all this being extra to what Dr. Doe will charge you directly for his services." So far, we have never seen or heard of the general practitioner or the specialist who had the nerve to do this. It would be interesting to see how long either of them would stay in practice if they did.

It has been truly said that fee-splitting is bribery on the part of the specialist and black-mail on the part of the general practitioner.

Take a high-minded, efficient specialist, who refuses to lower himself by fee-splitting; what chance has he of receiving patients from fee-splitting general practitioners if he is in competition with a fee-splitter, although the bribe-giver may be far less efficient than the honest specialist?

Fee-splitting is nothing but the buying and selling of the sick. The patient does not relish the idea of being sold like a nice, fat hog to the highest bidder. The very best way to break it up is to let the general public on to the secret; the blazing light of public opinion is a most efficient purifier of rotten practices. The truth is that fee-splitting is one of the most pernicious and dishonest practices ever tolerated by a profession of high ideals, and the sooner we can destroy it completely the sooner can we look the world straight in the face.

The American College of Surgeons, the American College of Physicians, and various other medical organizations, are fighting valiantly to put a stop to fee-splitting, and first-class hospitals are denying their privileges to those who split fees. But hospitals are often easily deceived. The practice still exists on a pretty large scale, and the family doctors, as well as the specialists, have a big opportunity to destroy this blight upon the medical profession.

Public health work has proven something of a thorn in the flesh to many family doctors. This, the writer believes, is due largely to one of two things. Either those in charge of the work are unfortunate in their manner, or methods, or else the family physician is mistaken in his judgment. This applies to all such public welfare work as drives for the eradication of tuberculosis, malaria, hookworm, small-pox, and other diseases, as well as health clinics where general physical examinations are made, or where Schick tests are made, teeth repaired, or tonsils removed. It would seem that wherever practicable local physicians should be employed, and whenever any remuneration is received, they should be paid their share. Much just criticism has been aimed at the careless methods used in some of the clinics, as, for example, where dozens of children have been subjected to tonsillectomies without adequate examinations, preparation, or post-operative treatment.

But, taken as a whole, immense good has been done by public health work, and it deserves the heartiest co-operation of the family doctor. Even from the most selfish point of view, the financial, it aids him by arousing public interest in health, and stimulates people to seek medical advice.

Family doctors have very often been forced to get along without the aid of the pathological laboratory. They become remarkably expert diagnosticians by close observation and much experience. This sometimes leads to an undervaluation of the laboratory. And this is unfortunate; for there can be no question as to the very great help to be derived from the modern laboratory, both in diagnosis and proper treatment. The average physician, by a moderate amount of study, and little investment, can secure and use a small laboratory that will be of the greatest value to him. This is being done more and more by doctors in general practice where they have not the advantages of a larger laboratory. It is a distinct step in the right direction.

Opinions upon the use of alcoholics are various and widely divergent. Some claim that it is best to leave intoxicants entirely alone. Some speak in favor of an occasional social drink; while still others consider water good for bathing purposes only. Our profession has a few of the latter!

Viewed from the cold standpoint of modern, scientific medicine, and from that of ordinary common sense, the first is the safest view. No one who has given the subject any unbiased consideration at all can fail to have been deeply impressed by the tremendous evils, physical and moral, wrought by alcoholics. An open-minded study will convince one that the harmful results are too big a price to pay for the doubtful privilege of so-called personal liberty. The economic loss, the millions spent annually for intoxicants, money so often taken from the needy, is also a vast consideration. If any class of people are in a position to judge of the evils of alcoholics, surely it is the doctors. Certainly as physicians interested in the health, and as citizens interested in the moral and economic welfare of the people, it is our duty and privilege to take a definite stand on this subject. As a whole, we have ingloriously failed to do our full part in the great

progressive, world-wide fight against intemperance.

The social evil has been with us since the dawn of history, and, no doubt long before. The recent war, and the tearing down of old barriers between the sexes, have served to increase these sexual offenses. Here, too, the doctor sees more of the tragic results than does any one else. Boys and girls, men and women, made physical and moral wrecks by venereal diseases. Unborn children destroyed, homes wrecked, and murders committed by uncontrolled sexual appetite. The family doctor is in a position to give much-needed aid by warnings and sane advice. Some can take advantage of the opportunities given to address students upon the subject. Our medical students, themselves, have not been sufficiently taught concerning these great truths.

One way in which the family physician can do much to build up a wholesome respect for the sanctity of the sexual relation, and a reverence for human life, is in the rigid discouragement of the strong tendency among certain classes of women to illegitimately terminate pregnancy. This is one of the great evils of today.

Frequently, we hear such remarks as this: "Oh, the doctor knew there was no hope for him, but he wouldn't tell his people." Or an anxious relative asks us, "Now, doctor, don't deceive me; tell me just how sick he is." There must be some reason for this belief among the public that doctors often keep back too much. A frank statement of the exact condition, made to the patient's family, is practically always best, and inspires confidence in the doctor. Whether or not the patient should be told of his real condition depends upon the individual case.

After 16 years of medical and surgical practice, the writer believes that, next to mistakes in diagnosis, the chief cause of the loss of patients who should be saved, is procrastination and a lack of the courage of his convictions on the part of the general practitioner. A doctor goes to a patient and finds, for instance, that he has acute appendicitis. He knows what this is and what the dangers are. Yet he tells the family to use cold applications, gives the patient an anodyne, and says he will call again tomorrow. This is procrastination plus a gambler's



chance. Or he may advise the patient to go to the hospital at once, for the doctor is fully convinced of the urgency of the case. But the patient pleads to wait until tomorrow; maybe he has had an attack before and hopes to get over it again without an operation. Probably the patient's Aunt Sallie, "who knows a lot about sick folks," according to her own confession, advises against an operation. Anyway, the doctor is persuaded, against his better judgment, to agree to let the patient wait, lacking the courage to back up his convictions and tell them to either do as he advises or get another physician to take charge of the case. When the patient finally gets to the hospital tomorrow, or a day or two later, he has general peritonitis, and the surgeon feels, when he operates, that he is just holding a premature autopsy.

There are but few greater drawbacks to a physician than a lack of decision and the courage to back up his diagnosis. A doctor cannot justly claim to have fully discharged his duty in an urgent case when he mildly advises a certain procedure. The patient does not realize the great danger, and it is the clear duty of the physician to be firm and insist upon the necessary treatment. If the doctor saw a man sleeping in a burning building he would not be satisfied to call to him gently, he would use strenuous efforts to rescue him.

This article, according to the title, also concerns the income of the family doctor. All that has already been advocated herein would tend, we believe, to increase income by increasing efficiency and thereby attracting patients. Two special measures for adding to income will be considered.

The first is to make adequate charges. The usual fees charged by the family doctor are entirely too small. For country trips, they often charge less than it would cost to hire an automobile for transportation, alone. The obstetrical charges are absurdly small in many localities. Patients value your services more highly if you make adequate charges.

The second measure concerns the collection of fees. The collection system of the average family physician is a haphazard affair. Some few never send out bills at all. Many send them but once a year. Any business run by such methods would fail almost before it began. One of the prime requisites

in a physician's financial success is regularity in presenting bills. This should be done monthly. Even where patients are farmers, and there is no hope of collecting anything much until harvest time, it is best to keep them well posted as to their accounts. The employment of a regular collector may be expedient in some cases. The doctor is required to meet his own financial obligations promptly, and, in order to do this, he must collect promptly.

If you cannot be sufficiently interested to practice medicine efficiently, then do as many others have done, quit! You owe it to yourself and to the sick. If you have become a medical nihilist, having lost faith in the physician's armamentarium, you are a poor soldier in the battle against disease. How can you fight if you have no confidence in your weapons? You cannot fail to meet defeat. Faith, hope, and a buoyant optimism must accompany the physician or he will fall by the wayside.

Maybe you have concentrated on the practice of medicine too closely? If so, what you need is a hobby outside of your regular routine. Choose one, and ride it hard, whether it be hunting, fishing, golfing, or what not; it will lengthen your years on earth, and give you a better chance of getting to heaven!

Active entrance into politics by the doctor is usually unwise. But a lively interest in public affairs is good. The physician lives close to the people and he knows their needs. Support of worthy movements is as much a part of the medical man's duty as it is the duty of any other citizen.

In conclusion, we may say that the family physician has been, and bids fair to continue to be, the backbone, in fact the real body, of the healing art. All specialists are mere appendages. We hear a lot about "the passing of the family doctor," but we also hear a great deal about "the passing of the family," and one seems about as likely to vanish as the other. By an examination of the American Medical Directory we find that the societies of the various specialists all together have a combined membership of about one physician to every 16 in the United States and Canada. That does not look much like the specialists are absorbing all of the doctors.

The lot of the family doctor has often



been hard, but not without its bright side. The automobile and good roads have done much to lessen his burdens. He has been overworked and underpaid, but he occupies a place in the heart of the people that is all his own. They love him, respect him, and depend upon him. His life is filled with wonderful opportunities for doing good, and that, after all, is man's greatest privilege.

His is the only really independent life in the medical profession. The specialists have to depend largely upon referred work, the family doctor controls the raw material at its sources, so to speak.

Taken by and large, they are a happy bunch of men, fairly prosperous, and the most valuable citizens on this old earth.

---

DR. PHILIP W. FLAGGE, High Point, N. C.

Let us seek the inherent trouble with the doctor man and his profession as indicated by his ability, the scope of his work, and his accomplishments. The question of his ability can be answered readily, for he is the product of the same schools that have made all practitioners of medicine. In accordance with the time in which he graduated he has had the same amount of instruction and clinical advantages. Therefore he has had an even start. If with an even start he has still lost in prestige, usefulness, and financial ability as an entire group, we would conclude that the reasons are certainly extrinsic, for it is a primitive instinct that man combats adversity with every inch of manhood. In this light we would be inclined to look upon these men as individuals who have sacrificed themselves for the preservation of an art which they perceived to be a necessity to humanity.

When we come to consider the scope of his work we find the first indication of a discrepancy in practice and judgment in the conduct of his profession. Let us not be harsh in our criticism, for in this instance he is the victim of the age-long tradition and practice of his predecessors. His error lies in an endeavor to spread himself over too large a field of practice; he has attempted the impossible.

That it is impossible for the average man to master more than one of the more commonly practiced specialties is freely acknowledged on all sides. Oblivious to this fact the family doctor has sought and is still seeking honor, usefulness and emolument in a varying number of specialties with the success that the average man can predict with a ninety-nine per cent accuracy. In former days, in a sparsely settled country this was

a necessity; it still may be a necessity in similar sections, but our question does not demand an answer for these men, as each was and still is a problem unto himself. Under such circumstances he has foreseen his situation and has calculated his prospects with mathematical precision. Our problem is with the condition as it exists today in the steadily increasing populous sections and in cities.

All sections of our country are rapidly undergoing changes. Within a period of less than twenty years the country doctor has practically disappeared from many localities. He probably represented the best type of the family doctor. Good roads, telephones, and automobiles have been instrumental in this change, but they have not been the only factors. A far greater one has been this same loss in prestige, usefulness and income, a situation acknowledged both by the doctor and his clientele.

Applying himself to any phase of diagnosis and treatment, family doctor maintained his position as long as his clientele could do no better without incurring prohibitive cost, but as soon as conditions changed they no longer trusted him in grave emergencies and obscure conditions. Did they go to the family doctors of the nearby cities? No, not one time in a hundred. They went to the surgeon, the gynecologist, the obstetrician, the pediatricist, or any other specialist that their condition demanded. If the circumstances were such that the case could not be taken to the specialist, he was asked to see it in the home.

This is a mute valuation placed upon two services and the conduct plainly points to the solution of our problem. The public has been perfectly frank in its conduct. It has

shown a clearness of reason which if stripped of bias should inspire the admiration of the profession as a whole. This mass movement also indicates that when properly educated and fairly treated we may depend upon the public to do the right thing by the profession. Unfortunately the medical profession blinded by tradition has been unable to see clearly what the public has visualized as the proper remedy for the existing evil. What has been said of the family doctor in the rural district is true also of the family doctor in the city, although in the latter instance he is being evicted more slowly.

What is the meaning of this process of evolution as viewed from the angles of the public and the profession? From the standpoint of the public it means that it is willing to pay the price of efficient medical service. It does not mean necessarily that the public has determined to abandon the services of the family doctor, but it does mean that he must be efficient in the service he proffers the public. And it takes for granted that the profession will cooperate when its interests are so vitally at stake.

From the standpoint of the profession it can mean nothing more or less than reconstruction. Like it or not, the public is going to be the final judge of the value of the services that the profession offers. This, restated, means that the public is going to be the judge of the kind of family doctor it will have. Until the profession provides the kind of family doctor that the public judges to be competent, the public is going to use its own judgment in seeking the services it feels it needs.

If, then, the present status of the family doctor is untenable for any of the above reasons, what shall be the restrictions under which he will serve in the new arrangement? There exists today in organized medicine a field of service which has become a fairly

well recognized specialty; this is practice limited to internal medicine. The family doctor will find this field large enough to engage his every ability and satisfy his every ambition. It is small enough to be sufficiently mastered by the average man and thereby make possible the best service within his ability. It is the one sphere in which he may cooperate with every specialist and at the same time be a specialist himself. Any of the existing specialists may call upon him for services that no other specialist can give and feel that the family's confidence is assured—a valuable asset in the conduct of any case. In this field he may be physician, counselor, and friend. It removes from him the stigma of incompetence and places him in a position of confidence and esteem in the home. Once in a field in which he can serve the public competently his services will be sought, and when this status is reached there will be need for no further anxiety about his income.

It is incumbent upon the medical profession as a whole to mark this field of service clearly for the family doctor and to cooperate with him in his endeavor to establish himself in this service to the public. Perhaps it should be sufficient if this field is clearly defined as a specialty and the public advised that it is the best avenue through which to seek the services of the profession.

Our medical schools should endeavor to fit men for this specialty and should discourage graduates entering practice from using this field as a stepping stone to another specialty. As a group the family doctors themselves can do much to advertise these facts to the public, but a little help from the profession at large will go a long way toward shortening the period of reconstruction and making the road smooth and endurable.

---

DR. GEORGE E. THOMPSON, Inman, S. C.

In recent years there has been a marked increase in specialists and specialism but the general practitioner, or family physician, still occupies the most important place in medicine. It is he who usually sees the patient first and as the result of his desire to obtain

the best for his patient is due in a large measure the growth and popularity of restricted fields of medicine. But the profession knows that the specialist who has served an apprenticeship as a general practitioner is a better-rounded doctor no matter what branch

of medicine he later claims for his own. The present day training of medical men tends more to specialism than formerly, and the dearth of young practitioners in the rural districts is due mostly to the lack of facilities for the application of the learning obtained in their college course. Having enjoyed the benefits of laboratories, they do not know how to proceed without these resources.

Therefore, emerging from a medical college with a degree the doctor finds there is much still to be learned in the application of his knowledge, and depending on how he spends his spare time, of which at first he may have much, his future success is often determined.

While a certain amount of recreation and relaxation from the duties of any profession are essential to one's welfare, habits of study and observation of detail in the history of individual patients is very desirable.

Frequent consultation with other physicians and regular attendance on medical meetings enlarges one's perspective and increases the store of medical knowledge. Of course one is apt to occasionally hear repeated at some of these meetings things that he already knows, but much is gained, not only from the papers and discussions while the meeting is in progress, but from the personal contact with other physicians and the rehearsal of mutual problems on the outside.

Our favorite text books are those we studied while in school, but the doctor should always be a student and the reading of medical magazines and new books adds new enthusiasm to his work and dispels routine. Many lay publications now contain articles dealing with medical subjects. Some of these are well written and serve a useful purpose. The family physician owes it to himself, his profession and his clientele to keep himself informed on these things as much as possible and be able to differentiate truth from exploitation. The curious and anxious often inquire as to the merit of alleged cures and methods of treatment. In answering these inquiries it is well to bear in mind that most cults possess some item of worth and there is frequently some element of truth in the claims made for them, but he who inquires should be reminded that the regular profession is willing and anxious at all times to employ any drug or adopt any procedure which is for his patient's best in-

terest. The family physician is frequently consulted in reference to matters of general welfare and his advice for the public weal is listened to with interest. However, the attainment of more knowledge concerning the prevention and treatment of disease I would consider as the best way for the family physician to improve his condition.

The acquirement of wealth might be said to improve a physician's well being and to be thought of next to the pleasure to be derived from the successful care of the sick, but should ever be considered subsidiary to the patient's best interests. The world in general oftentimes considers a man's worth to society according to his money but this is perhaps less true in reference to the physician than any other trade or profession. Not realizing the amount of work the doctor does without financial remuneration a great many people have a very exaggerated idea of his income. Every doctor knows that charity is frequently unworthily bestowed and the well-to-do frequently escape payment of accounts. A man having once received gratuitous service, it is difficult to convert him into a pay patient.

Physicians are often careless about book-keeping and sending bills promptly. Amid the rush of many duties the matter is passed over and forgotten hoping for a more favorable time. The average patient is more grateful and more likely to pay immediately after the illness terminates than a month or year later. Even the mailing of unpaid bills regularly reminds the delinquent that the doctor expects pay for his services and would greatly improve collections. People mistake the doctor's carelessness in financial matters for indifference and delay settlement accordingly. In some instances and in some localities more drastic methods are necessary to collect accounts than others, but the doctor should never forget to remember that collections are a very important part of his everyday life. The specialist has often given more thought to the matter of collections and the patient not knowing him so well hesitates to ask him for credit. The family physician being in closer contact with those whom he serves knows more about their financial status. He is apt to forego the collection of his own bill in order that a payment may be made on the mortgage, or the next installment met on the automobile. There is very little more



reason to credit for medical service than any other and cash collections should be made as much as possible. The grateful patient is the paying patient but the medical profession often forgets it.

If the family physician controls the most important sector on the medical battlefield as indicated in the beginning of this article his voice should be heard more often in the medical society. It is a lamentable fact that most of the time in many of our medical meetings is surrendered by him to others in special lines of work. Of course the specialist serves a useful purpose and I would not decry his efforts, but any general practitioner frequently has interesting cases which would prove of more general interest if well written up, and the effort of writing would do him good if more generally done. What could be more interesting than a good paper on a common malady by a veteran practitioner or the story

of how Doctor So-and-so makes so much better collections!

The medical society is just as willing to give ear to these as any other and it is to be hoped that the family physician will assume his rightful place in the councils of medicine.

In this age we enjoy the knowledge and experience of the past and the physician's success in a large measure is dependent on his ability to apply these in his daily work. The thirst for knowledge is still as great as in the days of Hippocrates and the man with a new idea can not escape the approbation of a civilized world.

To be of the greatest possible service to humanity, in that service receiving a fair compensation and earning the esteem and good will of one's fellows—this I would count as the greatest self-improvement and the truest success.

---

DR. W. A. JOHNSON, Mount Airy, N. C.

In the development of this subject I find it very comprehensive and all inclusive, however, I have attempted to express myself in the briefest way possible and submit to you the following:

I am convinced that a doctor's usefulness depends upon his preparation to meet the following requirements.

1. He must have the best professional preparation he can command.
2. He must keep constantly informed as to the best scientifically accepted methods in medicine and surgery.
3. He must arrange his program so that he may come in direct contact with the profession:
  - a. By observation in clinics.
  - b. Through professional magazines and publications.
  - c. By contact, if possible, with nationally known physicians and surgeons.
  - d. By contact with our state's best surgeons and physicians.
  - e. By knowledge of the location, accommodations, and equipment of the most accessible hospital.
  - f. The name and address of at least one

of its practicing surgeons and physicians.

- g. At least a partial knowledge of its administration.
- h. He should be free of professional jealousy.
- i. He should be optimistic in outlook.
- j. He should never be opinionated.
- k. He should by all means be physically and mentally alert.
- l. He should be democratic in his views but averse to expressing his opinions.
- m. He should be morally clean, true to himself and honest with his clientele.
- n. He should know the location of hospitals that offer to the public highly specialized service; and the names of the practicing surgeons and physicians who administer this special type of service.
1. We believe that the requirements as outlined above would have the tendency to enhance the opportunity to make the doctor an influential citizen in the community which is the prerequisite to the beginning of his bigness and influence among its citizenry.
2. However, a doctor's real vital influence depends largely upon the doctor's



- knowledge of the needs of the community and his initiative in being able to put across some definite program which affects the health of the entire district in which he works. No doctor should limit his work to his office practice.
3. He should investigate the sanitary provisions and see that they are adequate; institute "clean-up" campaigns; make a study of the water supply and advise with families or communities as to cleanliness; advise as to the care of milk, etc.
  4. He should make, or at least assist with a health survey and use his influence in carrying through a program that meets the needs.
  5. He should have the spirit of co-operation and work with the community's civic organizations in putting on a health campaign that demands co-operation with teachers and pupils in our public schools; a program that moulds public opinion to understand its health needs so that necessary funds will be appropriated to meet the conditions.
  6. The doctor should work with the schools, both teacher and pupil, and outline programs that meet the physical needs of childhood.
  7. Clinics should be built so that medical service could be rendered to poor as well as rich.
  8. However, a doctor may have these professional requirements, he may have the spirit of co-operation, he may be skilled in arranging programs and outlining the work for our schools and withal miss the greatest service he can render to the community and himself, for if he ignores the following requirements he will fall far short of his best service:
    - a. No doctor can succeed and be vitally influential who neglects his personal appearance.
    - b. He should be immaculate.
    - c. His hands should show care and his nails attention.
    - d. He should wear the best clothes that his purse can afford.
    - e. He should cultivate a pleasing per-

sonality.

- f. The doctor should be sympathetic.
- g. He should be tactful, frank, but never abrupt.
- h. He should have a fair vocabulary and know the correct form and use of English verbs.
- i. He should know how to choose correct forms for bills, stationery, etc., and how to fill these out.
- j. He should show himself friendly and avoid irritation.
- k. He should shun gossip and guard his patients' diseases with silence.
- l. The doctor should make the poor and humble feel his friendship as well as the rich and the great.
- m. The doctor should affiliate with some church in the community and be found in his pew as often as possible.

I once heard Dr. Howard Kelley say that no matter how simple the operation he had to do that he never forgot to enter his closet and ask God to guide his hand and keep his mind clear and quick in thought so that he might render the greatest service to his patient. Can we who are so much smaller afford to do less?

1. The family doctor should arrange his program so that it would be possible for him to attend medical conventions. This is necessary to progress and growth.
2. The doctor should have his vacation and play time.
3. The doctor should have some "hobby" as well as the banker and butcher.
4. Every doctor should specialize in some phase of his profession and seek to discover the best scientific method for its success. He should endeavor to make some contribution to his profession that would be of real service to humanity. He should not follow the profession for dollars and cents as the primary motive—it should be secondary at all times. The need is too great and the opportunity too fleeting to fail in the larger service.

I have given over the major part of my essay to "How the Family Doctor Can Increase His Influence" because I hold to this theory that service will be in ratio to influ-

ence and receipts in ratio to service, therefore the "income" will vary in proportion to the service we render in the community. Were I a minister of the gospel I should think that the "Parable of the Sower" would be a fitting conclusion and with all respect for the "Book of Books" I close with this indirect quotation:

"A sower went forth to sow; some seeds fell by the wayside, sprang up and were

choked by the wild growth; some on stony places and had no depth of earth and died; some fell in good ground, sprang up and bore sixty fold, some an hundred."

We must sow if we reap. We must not expect to reap from all we sow for some will fall by the wayside, but some will fall in good ground and from this we shall reap our reward.

---

DR. O. B. CHAMBERLAIN, Charleston, S. C.

It is entirely pertinent, and allied to the spirit of this paper to define properly our various terms, in the Socratic manner, and see first whether we are all agreed as to the matter in hand. Just what do we mean today by the "family doctor?" The growth of the science of medicine has brought with it specialization of labor. Medicine of today is a tremendously larger field than the medicine of our fathers. The inevitable result of this intensive and many sided study has been to divide the field into sections. Specialists for the different diseases or types of diseases have arisen in large numbers. So noticeable is this phase of modern medicine that most of the satire and good natured fun poked at the foibles of medicine center around this point.

Economic considerations, and the unusual financial prosperity of the American people have served to persuade novices in medicine to go into specialization and move to the centers of population where the pecuniary returns are large.

Sparsely settled communities offer little inducement to men practicing a single phase of medicine, who must have access to large groups of potential patients to succeed. Likewise a considerable number of individuals are not financially able to secure their medical services by consulting and paying the high fees demanded by men who have made themselves master of a phase of medicine. Therefore the "family doctor" has maintained, to a certain degree, his place. By the logical development of our definition he is the man who treats all phases of medicine.

Besides the economic problems which still call for his survival there is another, and still more cogent reason. This reason is bet-

ter appreciated today than a few years ago. Its appreciation springs from the fact that there has unquestionably been a reaction from specialization, or, to state the matter more accurately, the evils of specialization. The human being is an organism and not simply a collection of parts. Medical problems adhering to any patient can only be understood by a trained physician who is thoroughly acquainted with all the factors bearing upon the life reactions of a patient. This point has been so ably advanced recently that it would be beyond the sphere of this paper to discuss it further. Suffice it to say that today we know, as we never knew, that the only physician really competent to settle medical problems for an individual is the man who knows the patient, his personality, and that of his family, his aspirations, disposition and ideals. How can a medical attendant know all this unless he has been in intimate contact with the person for many years, as child, adolescent, and adult?

As to the other terms in the title of this essay, "Usefulness" is a broad term, an inclusive term and a dignified term. It means that the family doctor has a duty to his patients, himself and to medical science. He may, by increasing his usefulness, render the lives of those he comes in contact with happier and healthier. Surely this is the ideal of service. It likewise means that he can increase his own sense of contentment and well being, since there are few words so pleasing to the average human being as "Well done, thou good and faithful servant." Again, "usefulness" means that the physician may add his quota to the sum total of human knowledge, and so make his contribution to the advance of civilization and culture.

I have a quarrel, however, with the term "income." I do not come as a canting moralist when I advance the contention that any endeavor which holds an increase of income as a primary objective is doomed to an undesirable end. However cynical we may become in times of bitter disappointment and disillusionment, I think we all feel deeply that medical service cannot be measured in dollars and cents. The type of patients we are proud to serve repose in us an abiding faith and confidence which makes conscious attempts at pecuniary gain particularly despicable. It would be so easy, for a while at least, to beguile those we treat with sophisticated half-truths that our better nature rebels. We shall have merely to consult our own experiences to realize that if we buy new equipment, or take ostentatious trips, with the conscious effort in mind to increase our earnings, that we are steering straight for an outcome which will bring about our downfall, and in falling we drag the glorious traditions of medical service in the gutter. Advancement cannot lie by making a fat bank account our goal. Ideals become tarnished and lost, and a callous cynicism results. Luckily, however, for our physical well being and the comfort of our families, it is true that if we center our efforts earnestly and sincerely on increasing our usefulness, pecuniary reward and applause follow as a matter of course. And even if they fail to appear there are other compensations which more than outweigh them.

Therefore if we are agreed that the physician who takes a broad inclusive view over the entire field of medicine, and who lives in intimate contact with the individuals he serves, is and will always be a most desirable and praiseworthy figure, and that in increasing his usefulness he is rendering signal service to his patients, his science and himself, how best can he achieve this much-to-be-desired goal?

How can one be useful and inspire confidence of the right sort? The only answer is—by knowing. Knowledge may be positive or negative. One can often do almost as much good by knowing that there is no positive knowledge about a malady as by the possession of positive data. Much futile effort and expense may thereby be saved. Knowledge does not necessarily mean the ac-

cumulation of the thoughts of others. It means careful study of patients, thorough examination, and, above all, the comparison of experiences. And this brings up an essential point which seems to me fundamental. To learn more about medicine one must teach and force himself to keep records. It is given to the family doctor, as it is given to no other worker in the field of medicine, to see the development of the individual from infancy to adult life. But this God-given opportunity is lost if there is no comparison of the effects of the varying environmental reactions. It seems to me that there is no more striking exemplification of this point than the life and work of Sir James MacKenzie. He is perhaps the finest example of what the family doctor can accomplish in his own field. The story is doubtless familiar to every physician. As a family doctor, in a small Scottish city, MacKenzie saw and studied and recorded and analyzed, until he came to be the greatest authority in the world on the heart. He made the science of cardiology. What MacKenzie has done lies within the powers of every family doctor, provided he follows, with whole-souled intensity, the methods of the great Scotchman. The keeping of accurate notes and records is then the first and perhaps most vital factor which will make toward an increase in usefulness.

No one can or should be self-sufficient. By the combining of experiences of several individuals, generalizations of far-reaching importance are arrived at. Man, of all living creatures is unique in that he can learn from the experience of others and so avoid useless and time-consuming experimentation. Societies, county, state, national, and special, give the opportunity for an interchange of views and the acquisition of fresh angles of approach. A second factor in the increase of usefulness is, without a doubt, the active sharing in the scientific work of the group, however small, an individual is connected with. Besides this active participation, the reading of a few good journals and text books will successfully keep one abreast of the new developments. After all, the thing we are trying feebly to describe here is the development of an active spirit of inquiry. The physician must want to learn more and constantly perfect himself in his knowledge. Given this spirit, this questing desire, the



means are not hard to acquire.

Modern medicine is built upon the foundation stone of pathology. The great clinicians have all been, without exception, students of pathology and correlators of post-mortem findings with symptoms observed in life. Here, doubtless many of my readers will think I am suggesting an impossible effort. Not so. Any of us who live near a general hospital have a wonderful and often neglected opportunity to learn medicine as it can be learned in no other way. It is an incentive to discover that many men have overcome disadvantages and pursued the study of post-mortems in their private practice, either by their unaided efforts, or by forming groups to obtain material, and hence sharing the benefits.

The better equipment of offices leading to more thorough study and treatment of patients brings tremendous increase of efficient service. The commoner methods of laboratory examination are open to us all. This leads to efficiency in diagnosis and thoroughness of study. It does not take intelligent patients long to discover what doctors are doing slovenly, hit-or-miss methods of work, and on the other hand, who are the careful, conscientious workers.

There is a saying that "to be truly educated one should know something about everything and everything about something." This introduces a line of development which, it seems to me, we all might share in. I am thinking about perfecting ourselves in one of the subdivisions of medicine, in addition to our survey of the whole field. There are few of us who do not have an especially warm interest in some particular phase of our work. Diseases of the skin, the problems of syphilis of the nervous system, digestive disturbances, and a host of other so-called specialties may appeal to us. I am advocating, therefore, the development of what is often called a part-time specialty. Although I have already alluded to the undesirability of fixing our attention upon an increase of income, it is legitimate to state that in a report of the income of physicians in the United States, those who described themselves as part-time specialists, on an average, had a larger income than either specialists, or general practitioners. There is stimulation and added interest in feeling that in a certain field, one is leader in his community. And there is no reason for this to detract from the attain-

ing of general excellence in the entire field.

A word as to the desirability of seeking advice from specialists. There are certain procedures which need, for their correct carrying out, skilled and constant experience which are best left to those who practice that one department of science alone. The family doctor would be remiss to his patients, and a real source of danger, did he not honestly recognize that there are things which should be placed in the hands of those who practice them daily. To know when to seek advice and help is as essential as to perfect oneself broadly in many phases of medicine.

To summarize the various technical ways in which a family physician may largely increase his usefulness, and indirectly, his earning capacity: we have mentioned a higher degree of efficiency by the keeping of careful records, by taking an active part in the scientific work of societies, by correlating his study of cases with post-mortem examinations, by better equipment and the carrying out of laboratory procedures, and by the development of a part-time specialty. There can be little doubt but that a man who carefully and conscientiously follows these procedures will make himself highly worthwhile to his community.

Besides these endeavors, there are broader means of service. Too often the reproach is attached to doctors that they are too clanish, and do not share in civic matters. I am not thinking of politics, as we now use the term, but rather of the common activities of communities to which the family doctor should bring the benefit of wide training and experience. No one should be better able to speak with authority upon matters of community interest, involving education, health, recreation, child training, and the multitude of other factors so necessary to civic well-being. Too often the trained man stands aside and allows ignorant and half-baked enthusiasts to take the leading parts in matters whereof they know nothing. The family doctor who will voice his sentiments clearly and authoritatively will do his community service and protect it from charlatans and enthusiasts. And, in return, his community will reward him richly, not alone in a monetary way, but in that cordial trust and confidence which is man's greatest reward upon this earth.



## PRESIDENT'S PAGE

Symbolism is probably the manifestation of an effort to make an abstraction understandable through an appeal to some of the special senses. Sometimes I find myself wondering how far into adult life the mentality of childhood may reach. Many of those learned in the psychology of childhood believe that in early childhood the grasp of an abstraction is not possible, and that it is consequently useless to undertake to arouse in a child devotion to any such quality, for instance, as beauty, respect, love or duty. The understanding of such things comes, if it comes at all, after the individual has moved on out of childhood. All of us remain children to the extent that we remain materialistic to the bone, and our enormous use of symbolism is proof conclusive of it. We can be devoted to an object, but hardly to an unembodied idea. Every great religion has grown up around some One—Christ, Mahomet, or Buddha. So it has been in civic history. Thomas Jefferson is our democracy, and Alexander Hamilton our republicanism. One personage embodies in our opinions progress and another conservatism. Symbolism supplies us with the top hat, the dinner coat, the vested choir, the judicial robe, the national flag, military and naval uniforms, types of architecture, the engagement and the wedding ring, the alphabet, words, numerals, phrases, and all the other multitudinous methods by which art seeks to give expression to its myriad urges. Individuals who develop devotion to the same ideals bind themselves together for the same purpose, strive for the accomplishment of a unified ultimate object, all concentrate their hopes eventually upon some symbol which proclaims their cause. And yet there are those unimaginative persons who wonder why there are Klans and Kleagles and Fraternities and Sororities and Kiwanians and Rotarians and Eagles and Owls and Lions and Elks and Rebeccas and Pythians and Masons and Shriners and—medical societies, lots of them. We are, after all, only children who are trying to give expression to our emotions and to grow up mentally into adults.

Lord Bacon is reputed to have said that he who prefers solitude is either a god or a beast. Time was when a physician lived, professionally speaking, much alone—in medical solitude. Hospitals were few and consultations were rarely held. From the beginning of the illness until the recovery or the death of the patient the attending physician was the dominating autocrat. His skill guided the patient into the green pastures of recovery, or his ignorance smoothed the patient's passage into the stygian darkness of the grave. In olden days the attending physician played a lone hand. But times have changed. Today even the most pronounced pauper may be transferred from the attending doctor into the wards of a hospital in which all the evidences of the skill or the blunderings of the former medical attendant will be discovered. Modern medicine believes that in the multitude of counsellors there is safety, both for patients and for doctors. He who practices the profession of medicine conscientiously and intelligently and skillfully must know in some degree what is known in medicine in Vienna and in London, in Calcutta and in Bombay, in Dublin and in Berlin, in New York and in San Francisco, in Philadelphia and in Rochester, in Charleston and in Detroit, as well as what is known of the art in Jamestown and in Olin, as well as in Lanexa and in Monck's Corner. If he have not such medical curiosity and alertness he will soon find himself in the Medical Who Was rather than in the Medical Who's Who. The best opportunity afforded today for medical radiation and medical absorption is in a good medical society. For the doctor who has his being within the confines of either of the Carolinas or within the bounds of the commonwealth of old Virginia the Tri-State Medical Association serves admirably such a purpose. It has no other concern than the diffusion and the absorption of useful medical knowledge.

*Jas. H. Hall*

## CORRESPONDENCE

Wilmington, N. C.,  
May 4, 1928.

To the Editor, Southern Medicine and Surgery:

At the triennial Congress of Physicians and Surgeons in Washington and at the session of one of the component bodies, the American Society of Tropical Medicine, was presented in a few words and with a demonstration requiring about three minutes one of the most significant and important achievements of this period of medicine. Its significance is of such momentous importance that I feel constrained to write about it in the hope that my friends who were prevented from attending that great triennial congress, the greatest medical meeting in the world, through the unfortunate conflict of dates with our state society may know of it before its publication, which at best is usually delayed weeks and even months.

Dr. Joseph Goldberger, to whom we are already so deeply indebted for his amazing contribution to the cause and cure of pellagra, presented a cage full of albino rats in which he had produced unmistakably the unquestionable lesions of pellagra. This was accomplished by a diet conforming to the type of deficiency which he has taught us to regard as the cause of the disease. The diet chiefly was purified casein and olive oil.

The lesions were so similar to the lesions in man that one familiar with the disease would seek in vain for their counterparts in any other disease reproduced experimentally in the laboratory animals. The tops of the paws, a large area over the upper thorax and in some instances encircling the neck, were affected in the same symmetrical way as in man. In numerous animals there was a stomatitis and in some the characteristic lesion at the angles of the mouth. Emaciation was marked and the animal appeared as woe-begone as we so often see in the advanced form of the disease in man.

From the start of the study of pellagra in this country it has been the effort of all workers to reproduce the disease in some laboratory animal. At the Lister Institute in London Miss Chick and Miss Hume, eminent authorities in the deficiency diseases, did notable work. Miss Chick showed me

there a monkey with lesions strikingly suggestive of pellagra and I came away reasonably satisfied, but later evidence suggested sources of possible error. In my own laboratory, working with pigeons, I produced a red-legged condition just short of the full picture of polyneuritis gallinarum which I hoped might satisfy the requirements of an analogue of pellagra in man. It is only after the successful accomplishment of this reproduction of the unquestioned disease picture in a laboratory animal can the final word be written in such a condition as pellagra. Beriberi was finally settled as to its cause and cure as soon as polyneuritis of the fowl was proven to be its analogue. So, too, with scurvy.

After the various views of every worker in pellagra, beginning with the original account of Casal in 1735 to the present day, had been tinged with the possibility of a dietetic error in whole or in part, this final chapter is of such enormous importance that it is doubtful if its full significance can be appreciated at once. No longer will that small group of believers in an infectious basis have, in reason, a leg to stand on, though some will doubtless refuse to let the belief die an easy death. No longer will there be a reasonable basis for the questionable therapy of cacodylate of soda in this disease. Such treatment has doubtless done harm. It has possibilities of producing multiple neuritis, but this is secondary; the real danger is that any such treatment gives a sense of false security. The patient who is told of the importance of the diet largely ignores it and clings tenaciously to the tradition of his forefathers who believed that disease can only be cured by drugs. I have proven that such cases do infinitely better when nothing is advised except a detailed dietary. From this time no conscientious practitioner will be justified in giving drugs in pellagra any more than in scurvy or in beriberi.

Dr. Stiles made a great contribution to our health, happiness and progress when he brought the solution of the hook-worm problem. This will never be forgotten or undervalued. Dr. Goldberger now brings even a greater boon. Not only will the people of the South be blessed by it, but its beneficent

results will doubtless change the whole order of life of many other countries of the world.

I wish it were possible to show to Dr. Goldberger some small measure of our appreciation, but more particularly our realization of the worth of this boon to mankind made all the more important by the fact that it helps that portion of mankind which, through no fault of its own, most needs help.

EDWARD JENNER WOOD.

Charlotte, N. C.,  
May 8, 1928.

To the Editor Southern Medicine and Surgery:

I wish to call your attention to an article which appeared in the *Atlanta Journal* Sunday, May 6th, under the title, "Briar Causes Dread Disease."

The article tells of a case of blastomycosis, treated at the Davis-Fischer Sanatorium, which presumably began at the site of a briar scratch and resulted in the loss of the patient's arm.

It is stated that the diagnosis was made only after five of Atlanta's eminent pathologists had gathered at the Steiner Clinic and finally identified that strange germ in one of the fiercest and most skilled scientific battles in medical history.

The author states that this is Georgia's only recorded case of blastomycosis and during the illness of the patient the eyes of the medical world were turned upon the Davis-Fischer Sanatorium to watch tensely for the result of the fight against the germ, *blastomycetes*. It is further stated that Atlanta doctors won the fight and science has gained a wealth of new data upon a disease perilously obscure.

From reading this article, I am of the opinion that the author had two things in mind, first, to get a good story and secondly, to give the physicians credit and publicity for making a difficult diagnosis and obtaining a marvelous cure.

As a story, it no doubt appeals to the imagination of the layman, but does not deal with facts so far as the disease in general is concerned. While blastomycosis is not a common disease, about 100 cases have been reported in this country and many more have been seen that have not been reported. We

have seen four cases in Charlotte, and no doubt many more cases have been seen over the state in the past few years. It is not unusual to see from six to a dozen cases at the annual clinical meeting of the Chicago Dermatological Association. Similar numbers are seen at the clinics in other large cities. So, after all, blastomycosis is a disease that is frequently seen in certain sections of our country.

In the author's effort to eulogize the pathologists he has done them an injustice. I feel certain that any one of the pathologists could have easily recognized the *blastomycetes*. The organism, as a rule, can readily be recovered from the local lesion and is easily recognized by a trained pathologist. It may be seen in smears made from the pus, it can be cultured on suitable media, or it may be seen in the miliary abscesses on microscopic examination of involved tissue.

Let our newspaper friends, in writing on medical subjects, resort to facts rather than fiction and thereby keep history straight.

JOSEPH A. ELLIOTT.

Note—This letter was forwarded to *Southern Medicine and Surgery* by the Secretary-Treasurer of the Medical Society of the State of North Carolina.  
Spartanburg, S. C.,

March 17, 1928.

Editor of North Carolina Medical Association.

Dear Sir:

Through the generosity of the Commonwealth Fund, the Southern Pediatric Seminar is able to offer a limited number of scholarships to physicians in our states.

The Southern Pediatric Seminar is a post-graduate course of two weeks in the care and feeding of children. This scholarship carries with it all expenses for the two weeks' stay at Saluda, N. C.

Any physician in your state is eligible for appointment but we prefer giving them to men over thirty-five years of age, in general practice, and in towns of under 2,000 inhabitants. Any one interested in receiving this scholarship will communicate with me. The seminar begins on July 23rd and ends August 4th.

Yours very sincerely,  
D. LESESNE SMITH, M.D.,  
Registrar.

**OFFICERS**  
**Medical Society of the State of**  
**North Carolina**  
**1928-1929**

*President*

Dr. Thurman D. Kitchin ..... Wake Forest

*First Vice-President*

Dr. W. L. Dunn ..... Asheville

*Second Vice-President*

Dr. D. T. Tayloe, jr. .... Washington

*Third Vice-President*

Dr. W. D. James ..... Hamlet

*Secretary-Treasurer*

Dr. L. B. McBrayer ..... Southern Pines

**COUNCILORS***First District*

Dr. H. D. Walker ..... Elizabeth City

*Second District*

Dr. Grady G. Dixon ..... Ayden

*Third District*

Dr. J. B. Cranmer ..... Wilmington

*Fourth District*

Dr. W. H. Smith ..... Goldsboro

*Fifth District*

Dr. E. A. Livingston ..... Gibson

*Sixth District*

Dr. V. M. Hicks ..... Raleigh

*Seventh District*

Dr. T. C. Bost ..... Charlotte

*Eighth District*

Dr. R. B. Davis ..... Greensboro

*Ninth District*

Dr. M. R. Adams ..... Statesville

*Tenth District*

Dr. J. F. Abel ..... Waynesville

*Chairman Committee on Arrangements*

Dr. C. A. Julian ..... Greensboro

**OFFICERS**  
**Tri-State Medical Association of**  
**the Carolinas and Virginia**  
**1928-1929**

*President*—Dr. J. K. Hall ..... Richmond, Va.*Vice-Presidents:*

Dr. Oren Moore ..... Charlotte, N. C.

Dr. R. Finley Gayle, jr. .... Richmond, Va.

Dr. DeWitt Kluttz ..... Greenville, S. C.

*Secretary-Treasurer:*

Dr. J. M. Northington ..... Charlotte, N. C.

**EXECUTIVE COUNCIL****ONE YEAR TERM**

Dr. Warren T. Vaughan ..... Richmond, Va.

Dr. M. H. Wyman ..... Columbia, S. C.

Dr. L. G. Beall ..... Black Mountain, N. C.

**TWO YEAR TERM**

Dr. E. S. Boice ..... Rocky Mount, N. C.

Dr. F. B. Johnson ..... Charleston, S. C.

Dr. R. L. Payne ..... Norfolk, Va.

**THREE YEAR TERM**

Dr. J. Bolling Jones ..... Petersburg, Va.

Dr. D. A. Garrison ..... Gastonia, N. C.

Dr. W. R. Wallace ..... Chester, S. C.





SOUTHERN MEDICINE AND SURGERY

Official Organ of { Tri-State Medical Association of the Carolinas and Virginia  
Medical Society of the State of North Carolina  
JAMES M. NORTINGTON, M.D.  
Editor

Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	Human Behavior
FRANK HOWARD RICHARDSON, M.D.	Black Mountain, N. C.	Pediatrics
W. M. ROBEY, D.D.S.	Charlotte, N. C.	Dentistry
J. P. MATHESON, M.D.	Charlotte, N. C.	Diseases of the Eye, Ear, Nose and Throat
H. L. SLOAN, M.D.		
C. N. PEELER, M.D.		
F. E. MOTLEY, M.D.		
THE BARRET LABORATORIES	Charlotte, N. C.	Laboratories
J. L. MILLER, M.D.	Gastonia, N. C.	Orthopedic Surgery
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	Urology
JOHN D. MACRAE, M.D.	Asheville, N. C.	Radiology
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	Dermatology
PAUL H. RINGER, M.D.	Asheville, N. C.	Internal Medicine
GEO. H. BUNCH, M.D.	Columbia, S. C.	Surgery
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	Periodic Examinations
HENRY J. LANGSTON, M.D.	Danville, Va.	Obstetrics
CHAS. R. ROBINS, M.D.	Richmond, Va.	Gynecology
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	Neurology
LOUIS L. WILLIAMS, M.D.	Richmond, Va.	Public Health

THE MEETING OF THE STATE MEDICAL SOCIETY

A stimulating atmosphere pervaded the meeting just concluded. For the first time, from no one did we hear a note of discouragement. The prevailing spirit was one of gratification with the results obtained and confidence in the early achievement of even greater things in the way of making it a purely teaching and administrative body—of course with a strong blend of sociability. The bright, eager young men are encouraged, as are others who agree with the ideas expressed by Dr. Charles L. Minor in his Chairman's Address before the Section on Medicine in 1925, and ably supported by Dr. E. J. Wood. Those men who, all along, have thought that too many of the affairs of the society have been conducted from behind closed doors, and who are not content to go through the farce of voting on matters which have been decided beforehand—all these can come back now and help in the completion of the good work of bringing fully into effect Woodrow Wilson's principle of "open conventions, openly arrived at."

Even those of us who have deplored the excess of political activity take a great interest in the succession to the presidency. It is encouraging to be able to note that, up till less than a month before the meeting, no intimation had been heard as to who were being put forward for this office; and that both of the candidates are high types of scholarship and culture.

In the offices which he has held in this society, as a member of the Medical Examining Board, in the capacity of member of the Board of Visitors of the University, as well as in the conduct of his private practice, Dr. J. G. Murphy has set a high standard. We are constrained to believe that the concern of his friends that his strength might be unduly taxed by the addition of the arduous duties of the presidency deprived him of many votes.

Professor (and Dean) Kitchin comes into the presidency soon after Professor MacNider. It is a matter for gratulation that the title "Professor" now means something; that we have progressed from the period at which it was conferred on ill-prepared teach-

ers and on peripatetic magic-lantern show men. It is our confident hope that within a decade or two we will have come to the place where we, with Europeans, will regard the post of professor as far above that of successful merchant, banker, or even president of a cotton-mill. In the meantime we can be glad that the doctors of our state have the intelligence to call teachers from their class-rooms to teach us further, to lead us in our conquest over disease. President Kitchin goes into office with a united profession behind him. He can count on the loyal support of the doctors of the state. The Official Journal of the Medical Society of the State of North Carolina pledges him its fullest cooperation in the carrying out of the purposes of his administration.

The address of retiring President Burrus brought forth unusual applause, inside and outside the hall, as well as the unstinted praise of the press. Dr. Burrus did not spare himself. From beginning to end of his occupancy of the presidency he labored unceasingly for the increased usefulness and happiness of the doctors of his state; and he achieved greatly. A doctor of exceptional powers of discernment and expression wrote us last November: "After coming in contact with Dr. Burrus, it seems that things are markedly different for organized medicine than they were under 'the old regime.' At any rate there was a personal touch which had not hitherto existed and which made all of us rank-and-filers feel better. I can not look at the man Burrus and believe that he is feeding us on subtle politics."

The scientific sessions were well attended, especial interest being shown in the general sessions. Our invited guests presented their thoughts pleasingly and instructively. The society did itself the credit of conferring an Honorary Fellowship on Dr. James K. Hall, formerly of Iredell and Burke, for many years of Richmond, Virginia. No man is better loved by the doctors of North Carolina. We respond to his yearnings and his labors for the good of sick folks, and his love for "down-home." The editor is proud of him as a fellow-editor, as a fellow-doctor, as a fellowman, as a friend.

At the making of *Southern Medicine and Surgery* the Official Organ of the Medical Society of the State of North Carolina, we are greatly pleased; for its opportunity for usefulness to the doctors of the state is thereby enlarged. This opportunity will be further enlarged when it will, as our then-President, Dr. Burrus, wrote a few weeks ago, "find its way to every doctor in North Carolina." To each one who has aided the movement so far—all thanks.

Just a year ago this month this journal expressed itself for the principle of home rule in medical as well as lay affairs. However, as is usual with large questions, more than one principle is involved in the case which occasioned that editorial and the discussion of which at Pinehurst accounts for this notice. Because of the fact that exclusion from a county medical society automatically excludes from the state and national bodies, it was evident that some special provision should be made to meet such a situation. We proposed at that time that the county society express its willingness that the state society provide machinery for voting on the direct admission to its membership of doctors denied admission to constituent county societies, and who still wished membership in the state and national bodies. Very greatly to our astonishment, it appears that this plan is to be put into effect. We trust so, and that a great cause for dissension will be thereby removed for good and all.

As before noted, the general sessions were most heartily enjoyed. Our opinion is that we should have abolished so many sections as to make all the sessions general. Other duties prevented many of us from seeing and hearing much of importance that went on. The journal would be glad to have letters from any doctor telling what, if anything, happened along this or any other line; also letters expressing opinions as to what should be done next year. It is not too early to begin to *think* about the things which should be done, or to *do* about them.

---

#### PRESIDENT KITCHIN

The Medical Society of the State of North Carolina at its Diamond Jubilee meeting at Pinehurst selected as President one of the youngest men in its membership to be so hon-



Sincerely yours  
Thurman P. Kitchin





ored, Thurman D. Kitchin, Dean of the Medical Faculty of Wake Forest College.

Twenty years ago Dr. Kitchin was licensed by the North Carolina State Board of Medical Examiners, making the highest average grade in the 1908 class of applicants for license. Since then he has lived the life of an active general practitioner and teacher of medicine.

The newly elected President comes from a distinguished North Carolina family, many of whom have rendered notable public services. His father was Hon. William Walton Kitchin, for many years prominent in the public life of the state. A brother, William, served as a member of Congress and Governor of North Carolina. Another brother, Claude, for a number of years was the Democratic leader in Congress.

Dr. Kitchin, born in 1885, was educated in the public schools of his home county and at Wake Forest College, being graduated from the latter in 1905. For a year he studied medicine at the University of North Carolina, and then went to Jefferson Medical College where he received his degree in 1908. He was licensed to practice the same year, and located at Lumberton. Two years later he removed to his boyhood home, Scotland Neck, where he was in active practice for the next seven years. In 1917 he was made Professor of Physiology in the Medical School of Wake Forest College, and in 1919 was elected Dean, serving in that position since that time.

During the twenty years of his professional life Dr. Kitchin has been an active member of his county society and of the State Society. In 1920 he was chairman of the Section on Scientific Medicine. In 1927 he served as president of the Sixth District Society. Governor McLean called him to the service of the state as a member of a special committee to study the problem presented by the feeble-minded of the state. He was also appointed by the Governor on the directorate of the State Hospital in Raleigh, and is now chairman of the executive committee of that board.

The greatest contribution to his profession and to his state made by Dr. Kitchin has been the spirit which he has inspired in his students. Not only has he taught them scientifically, but he has touched their hearts as

only one who loves his fellows can. Under his leadership our society can not fail to achieve great things, for we are all with him. We look upon our handiwork and we see that it is good.

*Chas. O'H. Laughinghouse.*

---

#### THE OFFICIAL ORGAN

*Southern Medicine and Surgery* is proud to represent two medical societies of the first order. When the Medical Society of the State of North Carolina followed the example of the Tri-State Medical Association of the Carolinas and Virginia, the field of usefulness of the journal was greatly broadened. More intimate contacts with the component district and county societies will now be effected, through the journal information as to dates and programs of these societies can be properly and cheaply distributed, more interest will be shown in sending in those personal notes which interest us all, a good many who had some little idea that maybe the journal would be short-lived can now identify themselves with the journal, and that not considerable psychic advantage which inheres in identification with a unit of the American Medical Association will be gained.

We are confident that the doctors of the state will use the journal more and more to freely express their opinions and make known their wants. A query column is in contemplation.

Beginning with the next issue our new president will fill a monthly President's Page with wise instruction and counsel. In this way we will have him visit with us at such frequent intervals that those of us who have not known him hitherto can not fail to learn to know and appreciate his exceptional equipment as a teacher, as a doctor, and as a man.

Beginning next month Dr. C. A. Julian, of Greensboro, will conduct a Department of Practical Therapeutics. Dr. Julian's great experience has been gained from the same kind of patients as yours—living under the same kind of conditions, and afflicted with the same kind of diseases. He may write about leprosy, beri beri or Rocky Mountain fever sometimes, just to spread his wings and show that he is a globe-trotter and is widely read; but the regular pabulum he serves will be about such every-day things as

boils, dandruff, tooth-ache, stone-bruises, sun-burn, poison oak, after-pains, mad itch, sore throat, measles, whooping-cough, nephritis, heart disease and pneumonia.

The newly inaugurated Department of Public Health, under the able editorship of Dr. L. L. Williams has clearly shown that it fills a need and will be conducted with the fact constantly in view that this journal's primary concern is the family doctor, his needs and his wishes. Dr. Williams' contribution to this issue is commended to you as a fine sample of the thought of a man who, although elaborately trained along special lines of health work, keeps his feet firmly on the ground, and remembers that he is still a doctor and a thinking man. It is no reflection on our other editors to say that Dr. Chamberlain's editorial in this issue also is one of exceptional excellence.

Following up our editorial, "For Abolishing the \$25 Tax on Doctors," carried in the issue for April, we have had reprints made and are distributing them to the various counties of the state with the suggestion that each candidate for either house of the legislature be requested to state his position. The journal has addressed such letters, enclosing reprints, to the Mecklenburg candidates.

Very likely some of you will get responses more or less after this order:

"We lawyers have to pay it." Our answer is, "Yes, and you should."

"You doctors represent a dignified profession. I'm surprised that you are taking this step." Our answer is, "There is nothing undignified about protecting our rights and demanding justice. We know the difference between dignity and the booger man, which has been set up to bluff us over these many years."

"You are trying to influence my vote. If I am elected—and I expect to be, fully expect to be—I'm going to vote the way I think I ought to vote." Our answer is, "We are not trying to influence your vote. We only want to know how you will vote on this question, in case you are elected. As citizens can not vote directly on this matter, we are doing at this late date what all other sensible folks—bankers, merchants, lawyers, farmers—have been doing all along, asking how *our representatives* will vote."

Let's get this off our hands and then do something else. We want to hear from every regular doctor in the state, as frequently and as lengthily as he feels the urge. We may not agree with you; we may agree and still be unable to do anything about it; we will give your criticisms, suggestions and ideas earnest consideration.

And we doctors of North Carolina, with the assistance of a few stalwarts in other states, are going to build a great medical journal.

#### WHOM WE DELIGHT TO HONOR

About Heroes and Hero Worship

Two weeks ago Floyd Bennett, aviator, lost his life under circumstances of peculiar interest to doctors. He was on his way to aid fliers from the other side stranded on a bleak island, when pneumonia halted him at Quebec. Here was the setting for drama, and here was the opportunity for sensational newspapering.

It was not slow in developing. Although there are doctors in Quebec just as capable as any in New York, a "pneumonia expert" was sent post haste; we understand, by the *New York World*. After two or three days we saw in the papers that the patient must have serum from New York and that Lindbergh was on his way with it. When it was delivered it was found to be "the wrong serum"!

All of us who have any familiarity with these things knew that serum was to be had in Quebec just as we knew competent medical services were to be had from Quebec's own doctors; but what availed it when the "pneumonia specialist" "particularly wanted the type two serum from the New York City Health department"?

The three most authoritative expressions from men who are eminent as teachers, doctors and investigators of pneumonia in the United States, which have come out in recent months, were reviewed and commented on editorially in the April issue of this journal. These men are Joseph Miller of Chicago, Harlow Brooks of New York and Russell Cecil of New York.

Dr. Miller cares nothing for serum, Dr. Brooks next to nothing, and Dr. Cecil is faint in tis praise while emphatic that "the

*necessity* for *early* [italics ours] and adequate treatment can not be too strongly emphasized"; and this was, decidedly, not *early*.

It would naturally be thought that a specialist of such eminence as to warrant his being sent to take charge of a patient in Quebec would have one of the hundreds of teaching positions on the medical faculties of New York. A search of the reference books reveals no evidence that this is the case.

Mr. L. A. David, Provincial Secretary of Quebec very properly said, "I can not stomach this way of taking profit of a tragic situation under the mask of charity"; and "I must bitterly reprove those who have gone so far as to send a great hero like Colonel Lindbergh on such a futile mission, to let him risk his life on a vulgar, if spectacular, publicity stunt."

*The New England Journal of Medicine* is, as usual, found to be alert, and ready to speak its mind for decency and truth. The leading editorial of its newest issue says this:

"The mind that conceived a tabloid press judged with accuracy the type of mental pabulum most suited to the average intelligence. The public wants its meat well seasoned and its pudding smothered in sauce; perhaps to be abreast of the times one should say applesauce. The temperate account of an epochal advance in medical science leaves it cold, but it thrills to the broadcasting by radio of an appeal for a blood donor, and erects monuments to the dog that helped bring antitoxin to Nome.

"Particularly objectionable to our mind is the cheap and vulgar desire for publicity which inspired the recent flight to Quebec with a pneumonia serum of exceedingly questionable value in the case for which it was intended."

Some of us are disposed to ask why all this publicity for aviator's who take these risky trips? Is it not clear to everybody that refusal of publicity would reduce the sacrifice of life by at least three-fourths?

"I am most definitely of the opinion that Atlantic flights should be stopped by Governments until devices for insuring the safety of the flyers have been invented and perfected. Could it not be that some craft, or num-

ber of boats, could follow an Atlantic plane when on an experimental trip, as the tugs follow Channel swimmers? Or, better still, could not a number of airplanes travel together as war planes fly in formation? Then, if one machine dropped into the sea, one of the others could render assistance by wirelessing for help and directing ships toward the stricken plane. But perhaps it is the desire to "be the first," to "get there before the other machine" that prevents such a sensible experimental flight in unison. And unless such flights are going to be of value to the human race, I consider that it is foolish for flyers to attempt such dangerous trips.

"We mothers, wives and sweethearts never begrudged our darlings during the years of 1914-1918. We sent them away, often to their deaths, with that smile that veiled the ache. There were tears and desolation, but it was for our country that we did it, and we did it gladly. But is it right that we should send those same beloved ones out to risk the perils of the great Atlantic when they will gain nothing except the glory of having traveled in an engine-propelled bird across the space that takes steamships days to cross?

"I suggest that the loss of the brave men and women during the past few months will put back the possibility of safe Atlantic flying at least a year. It will take that time, and probably longer, for the public to get over the shock of the deaths attending the recent flights."

The foregoing expressions should command attention. They are the opinions of the mother of Captain Nungesser, who with Captain Coli, lost his life in an attempt to make the westward flight across the Atlantic. She has had bitter experience of the fruits of sensationalism. She knows, and all of us should know without having to pay the price she paid, that thrills for the multitude and record-breaking sales of newspapers do not justify the wanton risking of human life.

Our sympathy goes out to the relatives of Floyd Bennett. By all accounts he was a man of heroic mold. We sympathize, too, with Lindbergh. Because of our small regard for the imitation "Colonels" which make up the great majority we do not call him "Colonel." Through no fault of his own, but rather through his greatness of heart, he



has been made to serve innocently the selfish purposes of the unscrupulous and avaricious. He is far too rare and valuable to be risked in order that Greed and Sensationalism shall chuckle over a publicity stunt.

Three weeks ago Benjamin R. Graham, physician, lost his life under circumstances of peculiar interest to doctors. In the exercise of his every-day duties, in the fulfilment of the pledge he gave by the very act of choosing medicine as a vocation, he contracted septicemia from a patient (whose life we hope he saved) and soon he was dead. The very fact that a few inches of space in very few newspapers were thought adequate to commemorate his life and his death, though a sad commentary on the powers of appreciation and the standard of values of society at large, is an indirect, profound tribute to doctors everywhere; for it says plainly that the willingness on the part of doctors to take such risks is so general as not to merit special mention. The people of Wilmington and of the whole state mourn Dr. Graham. He risked his life willingly knowing that, succeed or fail, it was all in the day's work, and for him then would be no peans of praise, no burial in Arlington.

Long ago it was asked:

Or Flattery soothe the dull cold ear of  
"Can Honour's voice provoke the silent dust,  
Death"?

They can not; but if we would influence wisely those whose minds are in the formative stage, we should choose wisely the characters held up to them as heroic; as worthy of emulation.

Which was the greater hero? Which the more deserving of praise? Which the more worthy of emulation?

#### APPLAUDING AND SUPPORTING OUR OWN

In the first issue of this journal under its present management the opinion was expressed that original work in this section of the country was neglected, that we were too content to quote men in other sections; and the hope was put out that we would "do more investigation work and progress to the point where we can quote ourselves and each other as final authorities on special subjects."

The observations of Drs. W. H. Wadsworth and E. A. Misenheimer, of Concord, on the visibility of the eruption of measles as in-

fluenced by the ultraviolet ray evidence not only acute observation and alertness of mind, but an admirable spirit of research growing out of instant comprehension of possibilities of extension of the principle which these doctors had observed in operation.

The report is made in the *Journal of the A. M. A.*

Briefly: A child of eight years who had had measles and whose eruption had completely disappeared five days before was subjected to general ultraviolet radiation. Surprisingly the generalized measles rash was plainly seen in the darkened room. The observers were thoughtful enough to speculate on the possibility of being able to so observe the eruption prior to its appearance to the ordinary methods of observation and were rewarded by seeing the eruption plainly forty-eight hours in advance.

We congratulate Dr. Wadsworth and Dr. Misenheimer in the truest sense of the word—we rejoice not only at their achievement but *with* them—at this evidence of the keenness of observation of unexpected revelations, and the prompt realization of the possibilities of following up these revelations.

Encouraged by this instance, we repeat in May, 1928, our words of December, 1924: "Let us do more investigative work and progress to the point where we can quote ourselves and each other as final authorities on special subjects."

NOTE.—After the foregoing was written there appeared in at least one of the daily newspapers a front page write-up of this achievement. We can understand that friends whose zeal outruns their discretion are most likely responsible.

#### THE LIVER FAD

(From an Editorial in *Jour. of Arkansas Med. Soc.*)

For many years, in fact as long as memory of this generation endures, the liver, as an edible has been regarded as a plebeian dish. On the restaurant menu liver and onions, or liver and bacon, has been the cheapest of viands offered to the hungry. It has been the dish of the third rate boarding house, despised by the proud and haughty, even as in the same class as the equally plebeian corned beef and cabbage. The butcher was wont, on request, to throw in a bit of liver for the cat with the purchase of a steak or chop. The poor in purse could for a dime get enough liver to feed a family.



And then came the redemption of the liver from its lowly estate. With astounding abruptness it became chief over all meats in price. A food expert discovered that a diet of calf liver made robust, beefy looking people out of pale anemic persons. It made for fat and muscle in short order and the weak became strong over night. The glad news spread abroad through the mighty press, and the demand for liver, hitherto a drug on the market, became active. If one, unacquainted with this meteoric rise of the humble liver should, as of yore, enter a butcher shop and ask for a dime's worth of calf liver, he would get about one bite. By jumps, up went calf liver from seven cents a pound to 15, then, 20, 30, 40, 50, 60 and 70 cents a pound—away higher than choice beef, lamb or veal in war time.

And just as in the grain market reports, we find corn and oats following wheat upward in stiff markets, so cow's liver partook somewhat of the prosperity of its infant's liver and the market quotation mounted to 30 cents.

But as one star differeth from another star in glory, according to the scripture, so different livers have different grades of glory and price. The liver of the pig has not kept pace with the rise of calf liver. It remains around seven cents. But there are advantages in this fact, the advantage being with the man of the house if he does the marketing. A lady tells hubby she wants some calf liver as she feels anemic. The man, always skeptic, is unable to differentiate the respective glories of liver and takes little stock in the wife's complaint of being anemia's victim. He buys a pound of sliced pig liver for seven cents and pockets the remaining 63 cents. The wife eats of the pig liver, convinced that she is eating liver of the calf and she no longer has symptoms of anemia.

The husband, for obvious reasons, encourages his wife to keep up her calf liver diet at least three times a week. He now smokes better cigars and more of them.

---

Dear Old Soul (visiting her very sick brother)—  
 "I've a very nice letter from Emily. She says she's so sorry she ain't able to come and see you, but she hopes to be able to come to the funeral."—  
*London Humorist*.

## SYPHILIS BRIEFS

Never treat a genital lesion until a dark field examination has been made.

The cure of syphilis is at best presumptive, and recurrences always possible.

If the skin itches following arsphenamine look out for dermatitis exfoliativa.

Stokes has said, "To treat early syphilis with mercury by mouth is criminal."

Not all early neuro-syphilis will give a positive wassermann in the spinal fluid.

The absence of itching must not rule out syphilis in the diagnosis of a skin lesion.

Local treatment is rarely necessary in genital lesions positively diagnosed as luetic.

The anamnesis in a case of syphilis is not always reliable, but should always be taken.

In a fever of undiagnosed origin look for syphilis.

A lumbar puncture will clear up many a doubtful case.

Syphilis is a pandemic disease and no respecter of persons.

All doubtful genital lesions should be properly followed up.

Headache is an important symptom of early meningeal syphilis.

A diagnosis of chancre of the mouth by dark-field is extremely difficult. The *spirochaeta microdentium* morphologically is almost identical to the *spirochaeta pallidum*.

The importance of the hygienic treatment of syphilis is hardly to be overestimated.

An ounce of prophylactic calomel ointment is worth a pound of blue ointment cure.

Many a paretic has gone to an untimely end because some physician cauterized a chancre.

To give arsphenamine without examining the urine is like lighting a match over a gasoline tank.

Do not consider the wassermann the *sine qua non* of diagnosis. It is but one symptom of syphilis.

A sharp needle will solve many problems of intravenous therapy, and make friends of your patients.

Spirochetes are not always found the first time in true chancres. Use your dark-field again and again and then again.

—From *Urological and Cutaneous Review*.

---

"Doctor, what shall I take when I'm run down?"  
 "Take the guy's license number."

## DEPARTMENTS

### HUMAN BEHAVIOR

JAMES K. HALL, M.D., *Editor*  
Richmond

#### BEHAVIOR AS MIND

Not only the physician but the average layman as well looks upon certain changes in bodily activity as indicative of underlying physical disease. That particular change in respiration referred to as a cough causes more or less alarm; pain in the right side of the abdomen sends lots of people to the doctor; lessened mobility of a joint means at least rheumatism; and even lessening of appetite causes concern. The tendency to take on weight is a cause of actual anxiety to many people.

Although changes in behavior may indicate to many people the probability of causative physical disease it is rare that slight changes in conduct betoken to anybody the probability of underlying mental changes.

No one is able to grasp in its entirety the implications of the word mind, nor has any one a full understanding of the meaning of the term conduct. Probably the word mind has reference to those responses to environment less mechanical and less obvious than those referred to by the word conduct or behavior. Mind is thought of usually as lying within the domain of the immaterial, and conduct as within the region of the mechanical. But about those things we know little.

It must be true, however, that behavior is about the best portrayal of mental states that is available. The converse of the statement has been popularized to read that as a man thinketh so he behaveth. But that is only partially true. If the thinking of our neighbors were as obvious to us as their conduct the comfort of mankind would be enormously disturbed. We are able actually to conceal a good deal of our thinking—but probably not for any considerable period of time.

Most people give little intelligent thought to the importance of properly interpreting

behavior, especially marked changes in it. Changes in general conduct mean as much with reference to the mental as changes in the use of the body mean with reference to the condition of the physical being. Not long ago a man was found dead in his room in a hotel. There was a bullet hole in his head and a pistol lay on the floor beside him. He had long been punctilious about paying his hotel bill every Saturday for the week that had just passed. But for two or three weeks prior to his death he had insisted upon settling with the hotel each morning after breakfast for the day that was to come. He was a man of considerable means, and after his death his estate was found to be in well-ordered condition. He had left no debts and the disposition of every single one of his possessions had been carefully arranged. When he began to plan to commit suicide he had undoubtedly begun to pay his hotel bill in advance each morning after breakfast. But it took him three weeks to summon the necessary courage or desperation—what is the required quality?—to enable him to terminate his life. Had some one interpreted properly the meaning of the change that he had made in the simple matter of settling his hotel bill daily in advance instead of weekly as he had long been accustomed to do his life might have been saved. But psychoanalysis is thought to be a very deep and obscure and complex sort of procedure, useful only as a topic of discussion in learned philosophical bodies—and in pseudo-psychological lay gatherings.

### PEDIATRICS

*For this issue, G. W. KUTSCHER, M.D.,  
Associate, The Children's Clinic  
Black Mountain, N. C.*

#### FINAL REPORT ON THE UNDERWEIGHT SCHOOL CHILD

It is with a certain degree of pride that this final report of the Underweight School Child is made. The January issue of this journal carried the preliminary report of this

experiment and the March issue carried a continuation report. The results obtained were beyond our fondest expectations, particularly since this experiment was quite a departure from the usual and original plans often go awry. For the new reader of this column a brief resume of the plan will be outlined.

The local consolidated public school presented a report of over 50% of the enrollment as being underweight, in Nov. 1927. In December the author examined 50 underweight children from the first three grades and chose 8 of them, who were the most free of defects and thus "free to gain", to enter a test class. Eight other children from this group were likewise chosen to act as controls. These two groups were pitted against each other in a contest to gain weight through the alleviation of school strain. The members of the test group were permitted to leave their classrooms each afternoon for a rest period of one hour, but the control group carried on as before. Each week the members of both groups were weighed and their weights charted. More detail of the plan may be obtained by referring to the January and March issues of this journal.

Results in any experiment are what count, so the results of this plan to help these children to come up to normal weight through the

alleviation of school strain will follow.

The experiment lasted over a period of 15 weeks, from Jan. 4, until April 20, this year. The test group gained an average of 395% more weight than did the control group.

Some of the details learned from the experiment were very interesting as well as valuable. The loss of time from school work did not cause a single child to receive lower grades than before he began to take the hour's rest each day. In fact, most of them made much better grades than previously, due, it is felt, to the improvement in their physical status. The great difference in school attendance bespeaks the better group health of the test group. This locality has suffered the usual epidemics of chicken-pox, measles, and influenza on a larger scale than usual this year. It was observed that following a case of chicken-pox the child returned to school, from 1 to 3 pounds under his previous weight. A severe cold meant the loss of 1 to 1½ pounds and a two weeks absence due to measles meant 2 to 4 pounds. Such losses show that these children have had to do to come up to normal weight. Following such illnesses it was apparently easy for the children to make good gains each week after their return to school, until the previous weight had been attained.

At the end of the rest hour each child

	Test No. 1	Control No. 1	Test No. 2	Control No. 2	Test No. 3	Control No. 3	Test No. 4	Control No. 4	Test No. 5	Control No. 5	Test No. 6	Control No. 6	Test No. 7	Control No. 7	Test No. 8	Control No. 8
Age	7	7	8	8	7	7	6	6	8	8	7	7	6	6	10	10
Sex	F	M	F	M	M	F	F	M	F	M	M	F	F	M	F	M
Underweight at start—pounds	8	8	8	7½	6¾	3¾	8¼	8¼	9	8¼	7	9	6½	6	12	10
Underweight at finish—lbs.	4	5½	3¾	3	+1	1½	4½	4	4	3½	1½	3	1	4½	7	6
% Underweight at start	16	16	15	15	14	14	21	17	17	15	7	18	14	13	19	14
% Underweight at finish	8	12	7	5	0	0	10	8	7	2	1	16	2	8	11	7
Pounds gained	4	2½	4¼	4½	7¾	4¼	3¾	4¼	5	4¾	5½	3	5½	2	5	4
Average gain in ounces per week*	4+	2+	4+	4+	8+	4+	4	4+	5+	4+	5+	3+	5+	2+	5+	2+
Attendance %	91	53	90	68	74	53	96	60	96	60	79	56	71	63	80	50

\*The Normal Average gain is one and one-half ounces per week.

seemed to be transformed. He would have an expression of fatigue at the time he reported for his rest, but upon arising his eyes sparkled, his mind seemed alert and active and the color in his cheeks was something one would give a fortune to be able to paint into those cheeks permanently. The color did become permanent in several cases. One teacher who supplied 2 members of the group from her room said that after they returned from their rest she could "teach them anything." Some of the teachers were quite sceptical at first but they finally saw the results and became as enthusiastic as they were sceptical. It is firmly believed that the teachers are the best critics as to the results obtained aside from the gain in weight. They are the ones who have the best insight into the mental reactions of each child. If these children gained in that respect it seems that school strain must have been responsible for some of the underweight. That these children were tired mentally as well as physically is demonstrated by the better school work that resulted. School strain is a definite cause of malnutrition and it is hoped that it will be considered more sincerely in the future by not only the school authorities but by the medical profession as well. It is up to the medical man to present the facts to the school man and when the facts are presented, a change in the curriculum will have to follow. The laws of this state call for a six hour school day. Eight hours per day has been proven to be the optimum for the adult in which to do his best work. For a child to spend six hours at work which is harder for him than eight hours for his father is outrageous! The medical profession is too interested in the health of the youth of the country to allow this to go on any longer.

Two members of this group were known to be "nervous." Both of these children became less nervous as was attested by both the parents and the teachers. Incidentally any improvement in the nervousness of these children must have come as benefits from the experiment for they received no other treatment whatsoever. It may not be presumptuous to believe that the nervousness had resulted from the strain of the long school day.

The ones most interested in the experiment were the children themselves. Their interest in the progress of the weight-graph-

line was amazing. They were not ridiculed by the other children, but rather were envied by the outsiders. Competition became so keen that they took to gambling as to who would gain the most weight. The parents gave some valuable data as to the benefits derived from their point of view. The child's attitude about the home as well as to his work about the home was markedly improved. The usual morning argument about getting up and dressing for school disappeared. These children by going to bed at an early hour and regularly had had sufficient rest and sleep by morning and were willing to arise when called. This difference was very marked in one family where a sister and a brother were not entered in the contest. The one who was in the contest and went to bed early was usually the first member of the family to arise. The other sister and brother took part actively in the morning argument because they had been permitted to remain up late on the preceding evening. Appetites improved almost 100% and dispositions improved almost as much. Posture was likewise changed from the usual type of "fatigue posture" to a more erect type in many of the cases.

In conclusion a special case from the author's private practice will be discussed. Helen lived under ideal circumstances so far as her home life and diet were concerned. In February she became 6 years of age and started to school weight 48 pounds. In six weeks of school she lost six pounds. Upon examination to try to account for this loss in weight nothing organic could be found. She was entered as a special member of the underweight class and in another six weeks time she weighed 50½ pounds—a gain of 8½ pounds and a gain of 2½ pounds over her weight before starting to school. Absolutely no other change was made other than she received her hour's rest each afternoon. This case it is thought proves beyond all doubt the existence of school strain, the damages wrought, and the results that can be realized with such simple treatment.

---

Chaufer (to slightly deaf farmer): Can you tell me where I can get some gas?

Farmer: Hey?

Chaufer: No, gas! This ain't a horse, it's an automobile.—*Compend of Med. and Surg.*

---



## LABORATORIES

---

*For this issue, NANNIE M. SMITH, M.A.  
Charlotte, N. C.*

---

### OCCULT BLOOD IN FECES

---

The presence of a large amount of blood in the stool changes its appearance in such a way that it is not likely to be overlooked. Chemical tests, however, are necessary in order to detect blood when it is present only in traces.

The detection of occult blood is of greatest value in the diagnosis of malignant diseases of the alimentary tract and of duodenal ulcer.

Unfortunately, however, the tests in use at present for the detection of occult blood are not specific for blood pigment alone. Various other substances give the reaction.

Joseph C. Massee of Boston reports that in the routine stool examinations at the Peter Bent Brigham Hospital it was observed that a large number of diabetics in whom there was no reason to suspect diseases of the gastro-intestinal tract showed positive benzidine test for occult blood. He noticed that a larger proportion of diabetics than of other patients on diets containing meat gave positive tests. He tested the articles in the diabetic diet with the benzidine test and found that in addition to the meat, a vegetable, English marrow (given because of its bulk and low calory content) gave a positive reaction. The other vegetables in the diet did not give a positive reaction, but it is possible that there are other vegetables which have not been tested which will give a positive benzidine test.

In performing the tests for occult blood only tubes which are chemically clean and which have been rinsed with distilled water should be used, since traces of reagents which have been used for other tests may give the positive reaction.

The benzidine test is the simplest, the least time-consuming and the most sensitive of the tests for occult blood, and, since its fallacies are shared with the other tests in use, it is the test most commonly used. When negative this test proves the absence of even very minute traces of blood. In testing the feces an emulsion should be made in a test tube from two or three portions of the stool,

as one portion of a solid stool may contain blood while other portions contain none. This emulsion which is made in distilled water is boiled to destroy any enzyme present. A saturated solution of benzidine in glacial acetic acid is then made and a few drops are added to 2 or 3 c.c. of commercial hydrogen peroxide in another tube. If a green or blue tint appears in this reagent it must be discarded. If no color is obtained a few drops of the boiled emulsion of feces are added. If blood is present a definite blue or bluish green color is obtained. Faint tints should be disregarded.

If the test is positive about 10 c.c. of an emulsion of the feces should be treated with one-third of its volume of glacial acetic acid and then extracted with 10 c.c. of ether. The test is then repeated on the ether extract. Blood pigment is soluble in acidified ether but most of the disturbing factors are not. By using these precautions, most of the substances which may give the positive reaction except those which are present in the patient's diet are eliminated.

In all cases in which a positive test is obtained on a full diet the test should be repeated after those substances such as meat and vegetable marrow which are known to give a positive reaction are excluded from the diet.

---

## ORTHOPEDIC SURGERY

---

*For this issue, H. PAGE MAUCK, M.D., F.A.C.S.  
Richmond, Va.*

---

### FRACTURES OF THE OS CALCIS

In spite of the emphasis laid in almost all text books and the great number of articles in current literature on the seriousness of the crushing fractures of the os calcis, still these cases are woefully neglected. This is attested by the large number of victims of this condition who are awarded disability by the Workmen's Compensation Boards—in the states where such laws exist. In reviewing a fair number of these cases, it would seem the reason for this can be summed up under two headings.

1. Failure to recognize the fracture.

a. The swelling over the outer side of the os calcis resembles the swelling seen just below the external malleolus in simple sprains of the ankle. Motions of the ankle joint are

free just as in the sprains, and crepitus is absent in a very large percentage of cases; consequently many of these cases are wrongly diagnosed as simple sprains. Careful examination will usually reveal that the swelling is on both aspects of the os calcis. That pressure is painful over both the inner and outer side of the bone, that pressure under the heel is painful, as is any attempt at lateral motion. Extensive ecchymosis around the heel bone is suggestive of a fracture. A careful history of how the injury was received—sprains practically always by a lateral twist, while fractures of the os calcis usually by a fall coming down squarely on the heel. The distance or the severity of the fall, however, may be very misleading, as a fall a few feet may be sufficient to produce a fracture.

b. The x-ray examination is usually confusing unless taken in both the antero-posterior and lateral positions. The usual lateral plate may show very little of the real existing displacement of the fragments and none of the lateral spraddling which is so important. Satisfactory x-ray examination consists of an antero-posterior view as well as a lateral and this can be taken with the film behind the heel and the tube at an angle about parallel with the long axis of the os calcis. Such a view will reveal the longitudinal fracture lines as well as the amount of spraddling present.

c. The fact that simple rest with or without fixation will bring about a rapid subsidence of the acute symptoms, but the fact that weight-bearing is so painful after the swelling and other local symptoms have disappeared should always arouse suspicion.

II. Failure to realize that treatment of the fractured os calcis is a real surgical problem.

It requires very special and careful handling and simple haphazard attempt at reduction with subsequent fixation in plaster-of-paris can only mean permanent disability in all except the occasional case. If disability is to be prevented some such radical treatment as a subastragaloid arthrodesis as advocated by Wilson and Allison; tongs, traction and remodelling of the bone as advocated by Cotten; or use of the pin for traction with or without tenotomy of the tendo Achilles as suggested by Straus, must be carried out. The degree of skill used in carrying out these

procedures will certainly regulate the ultimate result. The after-treatment is of no lesser import than the surgical procedure; protection of the injured bone from weight-bearing for at least ten or twelve weeks is essential, and when weight-bearing is allowed a properly fitting arch support or shoe must be fitted. To sum up: Until the general practitioner, who first sees these cases, makes the proper diagnosis and refers them to a competent surgeon, and until the surgeon realizes the seriousness of these fractures and recognizes the permanent disability resulting from inefficient treatment and after care and improves these society and industry are going to continue to have a large percentage of needlessly crippled from this type of injury.

---

## UROLOGY

---

HAMILTON W. MCKAY, M.D., *Editor*  
Charlotte, N. C.

### CYSTOSCOPY IN INFANCY AND CHILDHOOD

The common surgical infections and conditions of the urinary tract in infancy and childhood are of sufficient importance to occupy a very prominent place in the daily work of the family doctor and the pediatrician. By "common surgical infections and conditions" I refer to conditions which occur in that group of cases where it becomes advisable to have the urinary tract inspected and treated by a urologist in order to either establish a diagnosis or to perfect a cure. For example, if an ordinary case of pyelitis resists the generally accepted medical therapy and management for a reasonable length of time, then such a case, in our opinion, should pass from the realm of medical treatment and should become an expectant surgical problem, whether it be a diagnostic one or a condition to be managed by such a surgical procedure as cystoscopy, ureteral catheterization and kidney drainage.

I have always felt that cystoscopy, while comparatively a simple surgical procedure, should be regarded more seriously than has been our custom. To introduce a foreign substance into the ureter and kidney, which in most instances, is a ureteral catheter, with the accompanying trauma that results and the possibility of infection, which we all ad-

mit may happen, should make us pause once in a while and think in terms of our own ureters and kidneys. Suppose you had to have your ureters catheterized. Would you not want good anesthesia, rigid aseptic technique and last but not least a gentle and skilled operator who will be kind to the parts to be explored? The cause of cystoscopy has been hurt in the average layman's mind because of lack of consideration for the above mentioned points. My contention is and has been that any instrumentation of the urinary tract, whether it be either the passage of an ordinary sound or endoscopic or cystoscopic examination or manipulation, should be thought of and carried out under the most rigid technic and asepsis and should be considered as seriously as any surgical procedure.

In previous talks and former papers on "Urologic Surgery in Pediatrics" I have tried to point out that the indications for a thorough urological examination are the same in the infant and child as they are in the adult. If we agree that the indications are the same and that the pathological conditions found vary little, except in the malignant diseases, then it would seem to me that it is the duty of all urologists who are interested in this subject to both write and speak to the profession when an opportunity offers itself, in order to convince them that cystoscopy is not only a sound and safe procedure to be done on the infant and child but that it has been and is neglected in many cases where it would be extremely useful to both doctor and patient.

The profession at large and especially urologists are indebted to men like Beer and Butterfield of this country and Wolf of Berlin, who, working together with skilled instrument makers, have given us several makes of infant cystoscopes, all of which are quite satisfactory both for the purposes of observation and catheterization of ureters in the infant and child. The size of the above instruments vary from No. 7 French to No. 16 French. In these instruments we have both direct and indirect vision, while some are equipped with irrigating and catheterizing attachments. So, thanks to the mechanical genius of the above mentioned men with the co-operation of instrument makers like Mr. Wappler of New York City, we need have no thought or worry

about an instrument of small enough caliber or of sufficient vision to examine the youngest infant or child. The advisable thing for the interested physicians is to select the type of cystoscope he prefers to operate with. I use a Wolf baby cystoscope No. 12 French, which admits a No. 5 French radiographic catheter and has been entirely satisfactory in my hands. I, however, believe that the Butterfield double catheterizing cystoscope has many advantages and I most heartily recommend it to those interested in pediatric urology.

Having decided on the baby cystoscope of choice, it is especially desirable to follow a regular routine if we are to successfully practice cystoscopy in the infant and child. We must have the co-operation and help of an experience anesthetist who can administer ether or one of the gases. The anesthetist must understand what we are trying to do and not only have time to give to this work but to be sympathetic in his demeanor with both mother and child. Before the anesthetic is started, everything must be systematically and perfectly arranged by a trained assistant so that nothing will interfere with the conservation of time while the patient is asleep. To do cystoscopy as quickly as possible is most desirable as only light anesthesia should be necessary. The amazing as well as the gratifying part of this work is that babies and children stand cystoscopy better than adults. They apparently have little pain or discomfort following ureteral catheterization and they seldom show the reaction so frequent in the adult.

To summarize, in conclusion, cystoscopy as practiced today on the infant and child is no longer in the experimental stage and it offers the same advantages to the progressive doctor to help solve his urinary problems in the infant and child as it does in his adult patients.

---

## INTERNAL MEDICINE

---

PAUL H. RINGER, A.B., M.D., *Editor*  
Asheville, N. C.

---

### A VARIETY—WITH SUGGESTIONS

The editor of this department has gotten rather tired of abstracting articles appearing in the current medical literature, and has

decided for a time to change his tactics. Instead of giving the contents of one particular paper in some detail, he is going to touch briefly upon several articles of diverse natures, pointing out their particular points of interest, and informing his readers where and how they can secure the paper in question either by seeking the journal wherein it appears, or by dropping a postal card to the author requesting a reprint. By adopting this new plan the editor feels that he will cover a wider field of interest and will also entail some effort upon his readers who, if they make the effort, will profit more as a result of their labors—for it is in accord with human nature that what we get for nothing means next to nothing to us.

With these few preliminary remarks, "let us to our muttons."

Those interested in the teaching of medicine and in the management of clinics should read two articles appearing recently in the *Journal of the A. M. A.* One, "The Soul of the Clinic," by the late Francis W. Peabody, of Boston, is printed in the issue of April 14. It is not a paper intended for publication, but a letter to a friend and colleague setting forth Dr. Peabody's ideas and ideals. The author, one of the leaders of the younger group of Boston internists (he was but 46 at the time of his death) sets forth lucidly and delightfully his conceptions of the requirements of a man at the head of a clinic. The letter is an inspiration and a challenge. Practical, humanitarian, altruistic, scientific, it shows a combination of profound medical knowledge, executive ability, and comprehension of problems to be faced and results to be sought. It may be of interest to the profession to know that Dr. Peabody died of malignant disease of the liver. When informed of the nature and hopelessness of his condition he let it in no way interfere with his daily routine, but continued his practice and his teaching as though nothing were wrong. While not bringing up the subject of his illness he was not averse to talking about it and simply accepted it as an inevitable occurrence. As long as he could do so, he persevered in his work and when strength failed him he withdrew and shortly died as "one who wraps the drapery of his couch about him and lies down to pleasant dreams."

In the *Journal of the A. M. A.* of April 21 is a reprint of an article by the late Dr. Theodore C. Janeway, published in the "Educational Review" for March, 1918, when the author was professor of Medicine at Johns Hopkins, entitled, "Outside Professional Engagements by Members of Professional Faculties." Every physician, whether interested in teaching or not, should read this, as it shows well the dovetailing and interlocking of the science and the art of medicine. Dr. Janeway's statements have the background of authority, as, to quote him: "I have taught in three medical schools, and in four hospitals, and have been an unpaid instructor, a professor giving part of his time to consulting practice, and a well paid, full-time teacher." The views of such a man seen through the span of a decade are well worth noting and reflecting upon.

In the same number of the *Journal of the A. M. A.* (April 21) Dr. George Draper, of New York, whose work on the human constitution is well known, presents a most interesting paper entitled, "Disease: A Pysomatic Reaction," in which he stresses the close relationship between the organic and the functional—between the soma and the psyche. Further discussion of this article would consume too much space. Read it—all of you that read this communication, and if you have not the journal, send a request for a reprint to Dr. George Draper, 33 East Sixty-eighth street, New York City—and when you have read the paper think over it and then read it again for it is replete with "the wisdom of the centuries."

In the *American Journal of the Medical Sciences* for April, 1928, there are three articles that will bear intensive reading. They are:

1. "Hypertension Heart," by Dr. George Fahr, of Minneapolis.
2. "The Ten-Year Diabetic, What He Is, What He Should Be," by Dr. Elliott P. Joslin, of Boston.
3. "Some Unusual and Atypical Intrathoracic Conditions," by Drs. Leo Kessel and Harold T. Hyman, of New York.

We know of course that cases of so-called "essential hypertension" or hyperpiesia if allowed to run their course, end in one of two ways: i. e., apoplexy or heart failure, with



the classical symptoms of cardiac decompensation. Many months ago the editor reviewed a paper by Dr. James E. Paullin, of Atlanta, in which he traced the outcome of patients suffering from hyperpiesia observed over a period of from two to eighteen years. Dr. Fahr gives an excellent review of the subject which is of enormous importance as "approximately 140,000 persons in the United States die each year from the consequences of high blood pressure." With the advances made in the realm of preventive medicine, infant mortality and death from the acute infections has been greatly reduced and expectation of life increased to 58 years. This has brought about a great increase in two conditions: malignant disease and cardio-vascular disturbances. Dr. Fahr's article is worthy of close study. Drop him a card at the University of Minnesota Medical School, Minneapolis, Minn., and request a reprint if you do not take the journal in which his paper appears.

There is probably no one in the United States that knows more about diabetes than does Dr. Joslin, and there is certainly no one that can treat diabetes better. With his vast experience, his absolute candor as to his successes and his failures, his voluminous and painstakingly accurate case records, any pronouncement issued by him is to be accepted as the very latest word in his chosen field. His survey of the "Ten-Year Diabetic" is instructive and inspiring. Founded upon diet, aided by personal care and surveillance, finally fortified and supplemented by insulin, the "Ten-Year Diabetic" issues forth as a veritably new product—a product of the scientist's incursions into the realm of pathological physiology and of man's adaptability to changed conditions and an unwelcome but bearable environment. Read this paper and gain from it consolation for the past, comfort for the present, and hope for the future. If you have not the journal, drop a line to Dr. Elliott P. Joslin, 81 Bay Street Road, Boston, Mass., asking him for a reprint.

Requirements of physical diagnosis, and particularly intensive use and expert interpretation of the x-ray have brought to light many thoracic conditions hitherto probably unsuspected and certainly undiagnosed. Kessel and Hyman in their case-histories, their

discussion and especially their excellent roentgenograms provide food for thought and also an element of doubt in the mind of the man not expert at interpreting x-ray films, as to whether he has correctly read the shadows shown on the negative. An honest doubt is a step forward. It is only by making doubts certainties or zeros that we reach the truth. Drop a line to Dr. Leo Kessel, 940 Park avenue, New York, and ask him for a reprint of his valuable paper.

Finally, turn to the *American Review of Tuberculosis* for April, 1918, and read the very first article by Dr. Edward N. Chapman, entitled: "Errors of Omission and Commission in the Diagnosis of Pulmonary Tuberculosis." It is in the main a statistical paper, but one of the most illuminating that the editor has seen in many a day. The editor sees a great deal of tuberculosis and is therefore able to appreciate the value of this paper. To the general practitioner, to the man that in varied work diagnoses but, let us say, six or eight cases of tuberculosis a year, this article should form a mine of information and a prophylactic against diagnostic errors in the future. Particular attention is called to two tables:

Table 3—Number of physicians consulted before diagnosis was made, and

Table 7—Errors in diagnosis.

The two are corollaries one to another. Each and every man (beginning with the editor) on reading this paper will find himself guilty in part and innocent in part. It is one of the most informative pieces of medical statistical writing that the editor has seen. By all means write Dr. Edward N. Chapman, Colorado Springs, Colo., and request a reprint.

In this issue the department has tried to cover a wide field so as to enlist the interest of as many as possible. The purpose of the department is to serve the readers of the journal. The editor will appreciate it if any of his readers that are so minded will write him telling him which system appeals most to them, the detailed abstraction of a single article, or the more encyclopedic procedure of broadly recommending several papers in various fields of endeavor and leaving it up to the readers themselves to secure these papers and thus to gain for themselves the greatest benefit therefrom.

## SURGERY

GEORGE H. BUNCH, M.D., *Editor*  
Columbia, S. C.

### SPINAL CORD TUMORS

Occurring only one-sixth as often as do tumors of the brain, tumors of the cord are more operable. Without surgical interference both are progressive and equally distressing in effect. Without operation both offer a hopeless prognosis. Since Sir Victor Horsley in 1887 first successfully removed a spinal cord tumor we have continued to make progress in our understanding of the localization of tumors of the cord. The relationship of cord segments and their roots to their cutaneous segments and to their muscular terminations are now understood and often enable us from the history and from repeated physical examinations to definitely locate the lesion. We now open any region of the spinal canal from the atlas to the sacrum with comparative safety; so surgery of the cord is fast becoming a special field of endeavor.

Spinal tumors may be intra-medullary or extra-medullary. They may originate in the meninges or in the vertebrae; but ultimately, no matter what their origin, they become manifest by involvement of spinal nerve roots and their respective spinal segments. The symptoms are first from irritation of the nerve tissue, later from its increasing compression and destruction. Frazier says there are three established cycles in the life history of the spinal tumor. The first or root cycle is the longest. In the early stages the symptoms are apt to be unilateral from the irritation and compression of the roots involved. There are pain, hyperesthesias, paresthesias and anesthetics in the region supplied by the involved posterior roots; there are tremors, paresis and atrophy of the muscles supplied by the compressed anterior roots. The second cycle is that of the Brown-Sequard syndrome, motor paralysis and loss of deep sensation on the side of the tumor and on the opposite side impairment of pain and temperature sensation, below the seat of the lesion. The cycle is constant because tumors begin on one side and symptoms are unilateral until pressure has become general. The third stage is when this has taken place and there is complete bilateral sensory and motor

paralysis below the lesion. There is paralysis of bladder and rectum and, finally, abolition of all reflexes and vasomotor and trophic disturbances.

There are so many variations in the symptoms of these cycles that there is no sharp dividing line between them. Depending upon the location and the progress of the tumor, symptoms vary. When the posterior roots are involved sensory disturbances predominate, but when the anterior roots are first involved the symptoms are muscular and without pain. Symptoms may change slowly or rapidly depending upon the rapidity of growth of the tumor. When symptoms are typical the upper level of the tumor can be readily determined. Unfortunately symptoms may not be typical and the diagnosis may not be readily made. Intractable nerve pain should suggest spinal cord tumor, Brachial neuritis, intercostal neuralgia, dry pleurisy, and sciatica are treated for years without spinal cord tumor being suspected. No doubt laparotomy and the removal of innocent organs has been done for the relief of abdominal pain due to spinal cord tumor. Nerve pain that persists after focal infection and other intoxication have been removed needs special investigation.

Tumors of the vertebrae are nearly always malignant and by pressure cause cord symptoms. More than 50 per cent of them are secondary to cancer of the breast; others come from cancer of the prostate and of the thyroid. X-ray examination will reveal the metastatic involvement of the bone and should be done as a routine when there are spinal symptoms. Old dislocations and fractures of the vertebrae should be investigated as a cause of cord irritation or pressure. Syphilis and tuberculosis as causes of symptoms must be considered. Myelitis and general cord disease must be eliminated.

Extra-dural abscess in the spinal canal in a case of ours caused complete block below the injury. A boy of 10 fell 4 feet and struck his back on a limb. Except for soreness and tenderness over the sixth dorsal vertebra he had no complaint and went to school. On the eighth night after the injury he awoke and was unable to move his legs. There was complete sensory and motor paralysis below the sixth dorsal vertebra. There was loss of reflexes and paralysis of both bladder

and rectum. The x-ray showed a fracture of the sixth dorsal vertebra. There was slight fever, leucocytosis and mental sluggishness. Laminectomy was done on the diagnosis of hemorrhage into the cord. At operation four laminae were removed and about two ounces of pus were found outside the dura but in the spinal canal. The dura was not opened. The patient after a month has return of his reflexes with control of bladder and rectum but with continued motor paralysis of his legs.

Iodized oil when other means of diagnosis have failed may be used to definitely locate the level of a spinal cord tumor. When injected into the canal above the tumor the oil settles to the most dependent level. In this way by the x-ray the spinal canal can be readily visualized. The oil is not absorbed and remains permanently in the canal so that its use should be restricted to the case in which the diagnosis cannot be made without it.

In conclusion the responsibility of the physician to a patient with a focal lesion of the spinal cord is obvious. Exploratory laminectomy is not a dangerous procedure and should not be delayed. Paraplegia from cord tumor is as surely the result of delay and negligence as is blindness from brain tumor.

---

## LIFE EXTENSION

---

FREDERICK R. TAYLOR, B.S., M.D., *Editor*  
High Point, N. C.

### THE BEGINNING OF PERIODIC HEALTH EXAMINATIONS

We do not wholeheartedly subscribe to the theory that there is nothing new under the sun, for if this were strictly true, it is obvious that progress of any kind would be entirely impossible. However, even admitting that the statement quoted from the pessimistic writer of Ecclesiastes is somewhat hyperbolic, we are convinced that as a forceful way of focussing our attention on the proposition that most things thought to be new are really not so at all, it merits full acceptance.

Most of us probably think of the idea of periodic health examinations as a very recent medical development—much more recent, for example, than the germ theory of disease. The practical application of the idea on a

large scale is recent—almost entirely confined to the present century—but the idea was suggested in a rather startlingly complete way by Dr. Horace Dobell, in his "Lectures on the Germs and Vestiges of Disease and the Prevention of the Invasion and Fatality of Disease by Periodical Examination," published in London in 1861 by J. Churchill. Dr. Dobell's remarks on the subject are quoted in Dr. Eugene Lyman Fisk's and Dr. J. Ramser Crawford's book, "How to Make the Periodic Health Examination," published by the Mac-Millan Company in 1927, as follows:

"I am perfectly convinced, from my own observation and experience in practice, that patients never think of consulting their doctors till these conditions of impaired general health have advanced far enough to have been developed into some form of disease; that thousands and thousands of people, believing themselves to be in health, are nevertheless undergoing these early, occult, and evasive stages of defect in the physiological state; and that such persons may be considered to be in health, not only by themselves, but by anyone accustomed to associate with them, even though it be a physician, and that even if they submit to a medical examination, as ordinarily conducted, they may be declared to be in health.

"I wish, then, to propose as the only means by which to reach the evil and to obtain the good, *that there should be instituted, as a custom, a system of periodical examination, to which all persons should submit themselves, and to which they should submit their children.*

"Such an examination must include an inquiry into the family history, to learn the hereditary constitution; into the personal history, to learn all the previous diseases that have been passed through, and the habits and vicissitudes of life; into all the conditions of life surrounding the individual; into the condition of the organs and functions of the body; into the state of the secretions and fluids of the body by analyses and microscopical examinations, and so forth.

"The examination should be reported in writing; and after due consideration, such advice must be given as a careful judgment may dictate, for the future conduct, pursuits, and habits of the patient, with a view to correcting any defects or tendency to defects

in the organism. Advice must also be given as to the means of removing any vestiges of disease that have been detected, or if they are not removable, advice as to the best way of overcoming their influence, or of averting their increase. To this must be added precautions to be adopted in certain contingencies which, according to the judgment of the case, appear probable.

"If such a plan as I have here proposed were to be faithfully and conscientiously carried out by the present and rising generation of well-educated and studious medical men, I think no one can doubt, after a careful consideration of the subject, that immense benefit would be conferred upon the public."

Like many men of prophetic vision, Dr. Dobell seems to have been so far ahead of his time that he could get no action on his proposition, which he recommended to British Life Insurance companies about forty years before American companies began to take an active interest in the idea.

---

## GYNECOLOGY

---

CHAS. R. ROBINS, M.D. F.A.C.S., *Editor*  
Richmond, Va.

### CASE REPORT ILLUSTRATING DISAPPEARANCE OF GENERAL SYMPTOMS FOLLOWING MYOMECTOMY

A white, single woman of 28 had her tonsils removed 5 years ago and 4 years ago had pallagra, from which she apparently recovered, but continued in a somewhat anemic and run-down condition, and six months ago began again to have a tendency to frequent bowel movements and became anemic. She consulted Dr. B. P. Seward who elicited the additional information that six months ago her periods became so free as to amount to a hemorrhage. She also suffered with severe cramps which lasted her five days at a time. Examination of her blood showed a marked secondary anemia. She began to menstruate at twelve years, periods always lasted a week and had cramps for one day.

She had no leucorrhea, voids four or five times during the day, no burning, tenesmus or blood. Bowels move too frequently, amounting to a slight diarrhea. Appetite not very good for past few months, some discomfort

after eating and has lost weight slightly. In the course of his examination he detected a mass that could be palpated through the abdomen above the pubes and by a bimanual examination, and she was referred to me for examination, with the following result. Palpable tumor in abdomen extending slightly above the symphysis; slight bloody discharge from vulva; cervix normal, fundus enlarged at least three times, irregularly globular and very hard. A diagnosis was made of fibroids of the uterus and an exploratory curettement with frozen section examination for malignancy was advised, and a resection of the uterus if possible if the case proved to be fibroids.

She was put in the hospital for complete rest and given treatment to improve her general condition, preparatory to an operation, which was performed a week later. The exploratory curettement revealed a patulous os, cavity increased to 13 cm. in depth and a large amount of very thick hypertrophic endometritis was removed. On opening the abdomen the uterus was found to be about the size of a three months pregnancy and very firm. The tumor was found to lie in the middle portion of the uterus, encroaching on the left side. An antero-posterior incision was made through the entire uterus to the right of the tumor down nearly to the internal os. This revealed a dark tumor submucous and covered over with dark hypertrophied endometrium, about a quarter inch thick. The tumor projected from the upper left segment of the cavity. It was excised by making a V shaped incision into the left portion of the uterus. The upper portion of the left uterus was then sewed to the lower portion and then the left and right portion brought together with interrupted linen sutures. The appendix showed an obliterative inflammation and it was removed.

Following the operation the patient did well. There was some bloody drainage for a while but this eventually stopped. She improved steadily, and when she was discharged eighteen days after the operation, appeared to be in good condition in every way. She reported a month later, excellent color, looking perfectly well and expressing herself as feeling well in every way. She had had one period which was normal. Examina-



tion showed a uterus of normal size and shape.

This case presents the following interesting points:

1. The preceding history of the case might have been construed to explain the present condition, especially as it was associated with frequency of bowel movements, in fact this was the patient's own interpretation. It is well known, of course, that constitutional affections often influence the menstrual functions. However, this error was prevented by a careful and complete examination by the medical man.

2. The presence of fibroids in comparatively young people is, of course, not so frequent, and sarcoma was suggested as a possibility by the apparent rapid growth and urgency of symptoms. The diagnosis at the time of operation by the frozen section microscopic examination is a necessity for proper handling of such cases, as only in this way can an exact decision be made. The fibroid when exposed proved to be undergoing necrobiasis, and there was no evidence of malignancy.

3. The question of what to do in fibroids in young women is often difficult to solve satisfactorily. Radiation will sterilize as effectively as hysterectomy, and owing to the fact that fibroids are multiple, myomectomy is often followed in a short while by the appearance of another crop of tumors. We have to decide whether the case justifies the risk of conservative operations. In the case of young unmarried women it would appear that the risk of other tumors is a less consideration than the extirpation of the organs. Resection has many advantages over simple myomectomy. A very much deformed uterus was approximated to the normal with restoration of normal function.

---

## NEUROLOGY

---

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston, S. C.

---

### THE MENTAL FACTOR

In almost every disease-picture which calls for interpretation, there is much which arises from the mind. A few days ago, I heard a distinguished psychiatrist say that seventy-five per cent of all medical problems were

mental. If this saying can be modified by placing the word "chronic" before "medical problems," I will gladly agree with him. Every time we are confronted with a patient who has been sick for a period exceeding one month, a large and formidable question arises, "How many of these symptoms have come about through the mechanism of habit formation and compensatory mental adjustments?" There are deep currents in all of us, tendencies crying out for expression. Some of these tendencies are blocked by ill-health. Others, on the contrary find expression in the altered conditions which protracted illness causes. It is tremendously interesting to speculate as to these innate drives and the mental mechanisms they give rise to, but I would find myself in the domain so efficiently ruled by Dr. Hall, and therefore I leave to him the explanation of these fascinating problems.

If it is time that mental adjustments must be looked for in every chronic disease, how much more is this apparent in certain disorders which are, so to speak, on the frontier between the frankly somatogenic and the equally patently psychogenic? I am thinking of such conditions as the idiopathic epilepsies, and migraine, for instance.

Recently there came into my office a middle-aged woman, whose condition has long been diagnosed as migraine. The patient is intelligent, attractive, well-to-do, and fortunate in the possession of a sympathetic, attentive husband. In my first interview I asked her to give me her previous medical history. The recital took more than an hour, and she gave an intelligent, chronologically correct account, without repetition, and with no more than the ordinary amount of circumstantiality. She had been under competent careful scientific management for many years, and she spoke with assurance of "scotomata" and the "sella turcica." I doubt if there was, or is, a single procedure, which might throw light upon structural or bio-chemical maladjustment, which has been left undone. She had not developed an anti-medical, doubting trend. (I am not so sure about her husband; I have not seen him as yet.) Rather she spoke with liking and respect for her physicians. There was drama in her story. The detective-like methods of search; the pursuit of a clue; the assault upon the deleterious

factor, the awaiting of results. Then the return of the grim periodic disturber, the confirmation of failure, and the reconnaissance preparatory to a fresh attempt. Now, what says neurology? Are these pains we have been struggling with all these years real? Are they imaginary? Shades of Bishop Berkeley! One feels like exclaiming "What is the difference between real and imaginary pains anyhow?" But it does not help the patient to become philosophical.

The service which neurology or psychiatry can give in a case of this type lies in a careful consideration of the many mental mechanisms which may have arisen during the course of such a sickness-experience. The background, the family, the husband, the personality trends, the temperament, the native intelligence, and all the other factors composing a part of the maelstrom of life, all these must be evaluated, and checked against and along with the physical manifestations. Perhaps, finally, a partial attempt might be made to answer the question, "How much is somatogenic and how much psychogenic?"

At times a colleague says casually, "Will you see Mr. So-and-so and tell me if he is really sick, or merely neurasthenic?" As if, forsooth, he were asking for a blood count, or a urinalysis! It is often quite discouraging.

---

## OBSTETRICS

---

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville, Va.

### CONSIDERATION OF INJURIES TO THE BIRTH CANAL

In reviewing literature on lacerations of the cervix there is much evidence which indicates that these lacerations are probably one of the causes of cancer of the cervix. Records show that many women of child-bearing age die of cancer of the cervix; also that many women just a short time following the child-bearing age die of cancer of the cervix. A majority of these patients give a history of lacerations of the cervix. The physician examines them and finds at the site of the old laceration the beginning of a new growth which may be very limited or very extensive. Also the history of these cases is that each has had rather profuse leucorrhea. This

leucorrhea has been more or less irritating. In addition we have frequently a history of discomfort in the vaginal region and some backache which was not present before, and the patient usually says that she has not enjoyed good health since the birth of her baby. This morbidity has more or less interfered with her disposition and with her proficiency as a wife and mother.

The trend of thought at the present time is apparently directed to lacerations of the cervix as being one of the probable primary causes of cancer. If, as time passes, this is proved to be a fact, then the family physician is placed in a position of great responsibility. He must not only be alert to recognize the primary laceration at delivery but, if possible, he must see that this is repaired then or as soon thereafter as possible. Physicians must also recognize the fact that many lacerations of the cervix occur with spontaneous deliveries, and only inspection of the cervix will tell them whether or not there is a laceration. Therefore, it is necessary for the physician to equip himself so that he can repair these lacerations, if possible, immediately following delivery. If he is not equipped to repair these lacerations either at the time of delivery or after delivery, then he should refer these patients to some good surgeon who will repair them at the proper time. The lacerations should not be left unrepaired to allow a continuous irritation of this region with leucorrhea and with other symptoms that are referable to the lacerations.

For the attending physician to observe these lacerations, repair them or have them repaired and give such treatment as may be necessary after the puerperium, to restore the normal function of the cervix means immeasurable good to the patient herself and a world of satisfaction to the immediate family. Every woman has an absolute right, while she is giving birth to children, to demand of her physician this sort of service. Every physician owes it to his patient to give A-1 services in attending to the cervix. It is very important, therefore, that he urge his patient to come to the office at the end of six weeks following delivery and at that time make a thorough examination, not only feeling the cervix but looking at it to see that it is all right.

The lacerations of the pelvic floor are very common. Women of the child-bearing age everywhere have lacerations of the pelvic floor with relaxed conditions bringing about cystocele, rectocele, retro-displacement, and first and second degree prolapse, all of which cause a morbid condition. These lacerations should be recognized immediately following delivery and they should be repaired carefully, all the structures approximated. If they are repaired promptly, whether the delivery be in the home or in the hospital, practically all will heal by first degree intension and a good pelvic floor will result, thus preventing retro-displacement, rectocele, cystocele and prolapse.

These two injuries to the birth canal are common. The physician should be alert to recognize them, treat them promptly and properly. In these cases where healing does not occur at the time of the repair, and at the end of puerperium if it is found that they have not healed properly, then the physician should either repair the lacerations himself or refer them to some surgeon who will cure this pathological condition and restore to the birth canal normal function.

---

## PUBLIC HEALTH

LOUIS L. WILLIAMS, M.D., Surgeon U. S. P. H. S.  
*Editor*  
Richmond, Va.

---

### SOME CONSIDERATION ON CONSERVING THE HEALTH OF CHILDREN WHILE EDUCATING THEM

The pedagogue and the doctor are at odds. This should not be so. The situation of the school child is serious and rapidly becoming more so. We need more cooperation and mutual study.

The demands of modern life with the rapidly increasing mass of knowledge seem to require that ever more and more time must be spent in the schoolroom, which means less time on the play-grounds. The sheer inertia of the mass of knowledge banked before the eyes of the school authorities fills them with fear. They cannot believe the brief schooling allotted the child is sufficient in which to accelerate the momentum of learning.

This is not necessarily so. True, we know more today than we knew a hundred years

ago, and if the prime purpose of schools was to teach facts, then the plight of the school child would be sad indeed. Although we have increased the mass of facts, we have not changed the prime purpose of the school-room, namely, teaching the basic principles of the three "R's," and, most important of all, inculcating in the minds of the growing generation the habit of study. We cannot hope to cram the mind of a single individual with even a tithe of the accumulated knowledge of the ages, but we can teach a normal child how to think and to study. The acquirement of this process of mind is neither longer nor shorter today than it was a century ago. As a matter of fact better methods of teaching have actually speeded up the process.

Lengthening the school day and the school year can be condoned in the professional schools of graduate study, where we deal with grown-up human beings. To do so in the early years of school where we deal with rapidly growing animal organisms is foolish in the extreme.

The neurologist has impressed us with the child's necessity for discharging pent-up nervous energy; the pediatricist has demonstrated and emphasized just how necessary direct sunlight is to the proper growth of children. In addition they have shown the prime advantages to the younger children of having the main hot meal in the middle of the day, with a brief period of rest thereafter.

Yet too often do we see children of the first, second and third grades, rapidly growing human animals six, seven and eight years old, remaining in school until half past one, two and even three o'clock in the afternoon. Two short recess periods are insufficient for adequate exercise; there is no opportunity for a large hot dinner at twelve-thirty or one, and no chance for a twenty or thirty minute period of rest after this important meal. The best sunlight hours of the day are gone while the children are too well shaded indoors.

Is it so necessary to keep these little ones in school after the morning session? Why should they not be turned loose at twelve o'clock, so they might get a good hot dinner, rest a little and spend the whole afternoon at play in the sunshine?

We have heard of one case where the lower grades were kept in school for the morning session only. The teachers of the upper grades registered a protest in that the teachers of the lower grades taught but a half session yet received full pay. To satisfy their demands, the school authorities ordered an afternoon session for these youngsters so that their teachers might make a full day. In other words, penalizing the children to aid the settlement of an administrative dispute.

We physicians have always been interested in the health of the school child, we aid in the examination of the school children and in correcting their defects. The time has come when physicians should play a proper part in the preparation of the school curriculum. What is most important to our children—insuring health and assuring proper vigorous growth, or cramming the mind with facts? We physicians should see to it that the best interests of the child's physical welfare are not subordinated to the demands of the curriculum.

---

#### CHICAGO'S GREATEST RADIOLOGICAL CONVENTION

The Radiological Society of North America will hold its Fourteenth Annual Convention in Chicago, December 3rd to 7th, inclusive, 1928. The Drake Hotel, Lake Shore Drive and North Michigan avenue, has been selected as the headquarters. We are assured of ample accommodations and exceptionally reasonable rates and of the best and most efficient service.

Make your plans for this year include Chicago's greatest Radiological Convention. Every physician who is interested in this branch of diagnosis and therapy is welcome.

There are no registration fees, no additional expense. Plans are under way now to secure reduced transportation rates.

The ladies' local reception committee is making plans for the entertainment of all visiting ladies. These plans include theater parties, luncheons, shopping tours and sight-seeing trips, with generous hospitality extended to all visitors.

Much attention is being given to arranging

for scientific and commercial exhibits. These exhibits will afford a post-graduate course of instruction in nearly every branch of medical science. Clinics covering radiological problems as well as other branches of medicine will be given every day during the session. We are assured by the program committee of an instructive and interesting scientific session and a program upon which will appear representative men from all sections of this country and Europe.

Start to make your plans to attend now. This means you. Many papers on general diagnosis and therapy will be read and discussed during the scientific session.

Bring the wife and family to Chicago, the hub of the United States, with theaters, parks, boulevards and shopping districts second to none.

The location of our headquarters at the Drake Hotel will be found especially convenient. Therefore, make your plans to attend this meeting now. You cannot afford to miss this Fourteenth Annual Session of the Radiological Society at Chicago. Reservations should be made early. Communicate with chairman of hotels and lodgings committee, T. J. Ronayne, M.D., West Suburban Hospital, Chicago, Illinois, or direct with Drake Hotel, Chicago, Ill.

---

THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITER will be held in Denver, Colorado, June 18, 19, 20, 1928.

All members of all State Medical Societies are cordially invited.

Features of the program of great interest will be an address by Professor Albert Kocher, Berne, Switzerland, on "Pre- and Post-operative Treatment of Goiter"; and an address by Professor B. Breitner, of the von Eiselberg Clinic, Vienna, Austria, on "The Iodine Question in Animal Experiments."

Many of the most distinguished students of the goiter question from various parts of the United States and Canada will speak. The chairman of the Committee of Welcome and Arrangements is Dr. H. S. Finney, 227 Sixteenth street, Denver.

---



## CASE REPORTS

## INSTRUCTIVE CASE OF PERIPHERAL THIRD NERVE PARALYSIS DUE TO EXPOSURE TO LIGHT

V. K. HART, M.D.

From the Department of Head Specialties  
Davis Hospital, Statesville, N. C.

This case is presented because of: 1. Unusual etiology. 2. Duration of condition for over two years with ultimate, complete recovery. 3. It showing the extreme importance of making a differential diagnosis between a peripheral and central involvement, with a consequent accurate prognosis. 4. Unusual involvement in that just the fibers to levator and inferior oblique were involved.

A brief resume of history and examination is recapitulated from the record.

White man, aged sixty, first presented himself September 22, 1925, complaining of double vision. This had only occurred on the morning of examination. The previous evening he had fallen asleep while reading, leaving a bright light shining in the eyes. Previous and family history negligible.

**Examination:** Definite ptosis of left lid. Tension normal each eye. Pupillary reactions fairly prompt and pupils equal. Excursions normal in lateral meridians, but definite lagging of left globe on looking upward. With red glass over right eye, red image is below and to right; conversely with red glass over left eye, red image above and to left (vertical homonymous diplopia). Maximum diplopia occurred on looking up and to right and hence probably a paralysis of inferior oblique. Diplopia can be corrected with 27 prism degrees (base up over left eye; base down over right eye). Cornea clear. Media clear. Eye grounds entirely negative. Retinoscopy on undilated pupil showed a moderate far-sighted astigmatism with axis 180. At trial case he accepted: right eye, sphere plus .75 with cylinder plus .75 axis 180 equals 20/20; left eye, sphere plus .50 with cylinder plus .50 axis 180 equals 20/20. Fields normal for white, blue and red.

An ear, nose and throat examination was essentially negative. He was referred to the medical department for a complete examination, which was negative.

**Tentative diagnosis:** Peripheral neuritis,

left third nerve involving branches to levator and inferior oblique.

**Laboratory:** Blood chemistry studies and blood count were all negative. Blood Wassermann negative. Urinalysis negative. A spinal puncture was not done in this case because of the obvious peripheral character of the lesion.

**Comment:** The patient was told that ultimate recovery would follow but that it would take some time for complete resolution of the trouble. He was given a glazed glass over the left eye and the proper bifocal lens over the right. At all times he was able to carry on his work as a clerk in a department store. He never at any time ran a temperature.

Personal experience has shown other cases of third nerve involvement in approximate order of frequency to be: 1. Peripheral diabetic neuritis. 2. Fracture with new bone formation and hemorrhage either extradural or subdural. (Case reported by author *Virginia Medical Monthly*, November, 1926.) 3. Central syphilis. 4. Lethargic encephalitis. 5. Brain tumor. 6. Multiple sclerosis. 7. Superior polio-encephalitis. Myasthenia gravis often involves the ocular muscles and simulates a nerve paralysis. However, usually the superior oblique or lateral rectus or both are involved (supplied by fourth and sixth nerves).

Two years and five months later refraction was done and errors corrected to normal for each eye. His muscle balance showed:

Distance:

1. Three degrees transitory right hyperphoria.

2. No exophoria or esophoria.

Near:

1. One degree transitory right hyperphoria.

2. Twelve degrees exophoria.

It was believed that the weakness of convergence was entirely due to disuse of binocular vision and would improve with exercises. This has proved to be correct. Only his proper correction was prescribed without prisms. He had continued to do well without symptoms.

It certainly would be a mistake to do a muscle operation on this type of patient.

## REVIEW OF RECENT BOOKS

**TUBERCULOSIS:** Its Prevention and Home Treatment—A Guide for the Use of Patients, by H. Hyslop Thomson, M.D., D.P.H., County Medical Officer of Health, School Medical Officer and County Tuberculosis Officer for Hertfordshire; formerly Medical Superintendent Liverpool Sanatorium and Medical Superintendent Consumption Sanatorium of Scotland, Bridge of Weir. Third edition. Humphrey Milford, Oxford University Press. London and New York.

This is an admirably conceived and executed work for giving instruction in the basic facts about tuberculosis and the tuberculous. Marginal notes indicate the subject contiguously discussed. How not to become a victim of the disease is cleverly treated of in two chapters, headed: "How to Avoid Susceptibility" and "Precautions Against Infection." Two informative chapters are given to home treatment. The author has carefully excluded words which are not readily understandable to a non-medical person of average intelligence and education, without sacrificing anything of clarity or forcefulness. It would be the part of wisdom to use it as a text in our high schools.

**STUDIES IN THE PSYCHOLOGY OF SEX.** Volume VII. Eonism and other supplementary studies, by Havelock Ellis. Philadelphia, F. A. Davis Company, Publishers, 1928. \$5.00.

This is the seventh, and final, volume of a series which, though following a natural order and in a way supplementing one another, are so written that each volume is complete in itself.

As needs not to be said to those acquainted with the literature on this subject, it is a dignified, learned disquisition on matters of which information is not nearly so widespread as misinformation—even among doctors, yet which a doctor must know if he is to do the best for his patients, indeed if he is to do anything for many of them.

The series represents the major part of the life work of a great scientist. The chapter

heads well give an outline of the scope. They are: Eonism; The Doctrine of Erogenic Zones; The History of Florrie and the Mechanism of Sexual Deviation; The Menstrual Curve of Sexual Impulse; The Synthesis of Dreams: A Study of a Series of One Hundred Dreams; The Conception of Narcissism; Undinism; Kleptolagnia; The History of Marriage.

To those who refuse to accept Henry Ford's dictum, "History is bunk," the final chapter will be of especial interest just now when Judge Ben Lindsay's "Companionate Marriage" is so much to the fore.

**PHYSICAL DIAGNOSIS**, by W. D. Rose, M.D., Associate Professor of Medicine in the University of Arkansas, Little Rock, Ark. Fifth edition. Three hundred and ten illustrations and three color plates. St. Louis, The C. V. Mosby Company, 1927. \$10.00.

The opening chapter is on "Clinical Anatomy" which is welcomed as better than "Surgical Anatomy," in that it is a dealing with the parts as they present themselves to the doctor for diagnosis and treatment.

The detailed directions for investigation by means of at least four of our five senses afford ample evidence that no reliable shortcut to diagnosis has been evolved. Each method's discussion is introduced by the words, "Object and Technic"—a most excellent method of keeping it before the mind that all this meets a real need, that no redundant matter is being retained merely as padding.

In the section on diseases of the bronchopulmonary system, it is said—of this disease or that—that "the physical signs are frequently limited to a few" named signs. The statements might have gone further, saying "to just no signs at all."

In our dependence on good journals, we may neglect too long reviewing and adding to our knowledge of the tedious, detailed procedures requisite for making diagnoses. Most gross errors in diagnosis are made because we did not think of the condition present; or

because we did not question, look, feel and thump as we should.

A study of Rose will materially reduce our diagnostic errors.

## CHUCKLES

### VITAMINS IN VERSE

(From *Jour. Canadian Med. Assn.*)

The following verses were contributed to the *St. Bartholomew's Hospital Journal* by C. H. A.

#### THE A. B. C. OF VITAMINS

##### A

Oh fine and fat was Ralph the rat,  
And his eye was a clear cold grey.  
How mournful that he ate less fat  
As day succeeded day,  
Till he found each cornea daily hornier,  
Lacking its Vitamin A.  
"I missed my Vitamin A, my dears,"  
That rat was heard to say,  
"And you'll find your eyes will keratinize  
If you miss your Vitamin A."

##### B

Now polished rice is extremely nice  
At a high suburban tea,  
But Arbutnot Lane remarks with pain  
That it lacks all Vitamin B,  
And beri-beri is very, very  
Hard on the nerves, says he.  
"Oh take your Vitamin B, my dears!"  
I heard that surgeon say;  
"If I hadn't been fed on standard bread,  
I shouldn't be here today."

##### C

The scurvy flew through the schooner's crew  
As they sailed on an Arctic sea.  
They were far from land and their food was canned,  
So they got no Vitamin C,  
For "Devil's the use of orange juice,"  
The skipper 'ad said, said he.  
They were victualled with pickled pork, my  
dears,  
Those mariners bold and free.  
Yet life's but brief on the best corned beef  
If you don't get Vitamin C.

##### D

The epiphyses of Jemima's knees  
Were a truly appalling sight;  
For the rickets strikes whom it jolly well likes  
If the Vitamin D's not right,  
Though its plots we foil with our cod-liver oil  
Or our ultra-violet light.  
So swallow your cod-liver oil, my dears,  
And bonny big babes you'll be.  
Though it makes you sick it's a cure for the  
rickets  
And teeming with Vitamin D.

##### E

Now Vitamins D and A, B and C  
Will ensure that you're happy and strong;  
But that's no use; you must reproduce  
Or the race won't last for long.

So Vitamin E is the stuff for me,  
And its praises end my song.  
We'll double the birth rate yet, my dears,  
If we all eat Vitamin E.  
We can blast the hopes of Maria Stopes  
By taking it with our tea.

### NO CALL FOR VORONOFF

Henry, the proud father of ten, was a thrifty prosperous negro tenant on Mr. King's excellent farm. In a year not so long ago several of the mares brought forth twin foal, two cows calved twins and one triplets and among the ewes there was a disproportionately large number of multiple births.

When the fall settling-up had been concluded this dialogue took place:

"Well, Mr. Ben, I reckon I'll have to make a crop somewhere else another year."

"What's the matter Henry, I thought everything was going fine. We both made money this year and ought to do better next. Aren't you satisfied? I'd hate to lose you."

"I hates to go myself."

"Then what foolish notion have you taken up that makes you want to leave?"

"Tain't no foolish notion, suh. I got to move off a dis place. De water's just nacherly too strong."

First Broker—"What's companionate marriage?"

Second Broker—"Interim security, no par, cumulative, free from stock liability, callable at any time."—*Life*.

### SHE'S READING TRUE CONFESSIONS BY LIGHT OF DELCO

What has become of the old-fashioned girl who used to spend Saturday mornings breathing into lamp chimneys and cleaning them with an old newspaper?—*Chatham News*, via *Greensboro News*.

### DOES HE VISIT HOSPITALS FOR FUN?

J. M. Hayes is in a High Point hospital at present, but the hope is for no serious purpose. —*Thomasville news*, *Lexington Dispatch*, via *Greensboro News*.

The nation's doctor bill is now a million and a half a day, but apples are not cheap, either. What to do? What to do?—*The New Yorker*.

### LOOPING THE LOOP

Sam (watching an airplane at a county fair): Bo, can't dat fella do dem stunts?

"He sho' can."

Sam: Bo, can't he thro' a wicked loop?

"He sho' can."

Sam: Bo, wouldn't ya hate to be dat fella up dar in dat plane?

Sammy: Bo, but wouldn't ya hate to be dat fella up dar and not be in dat plane?—*Texas Ranger*.

## NEWS NOTES

(Dr. L. B. McBrayer kindly passes on to us items received from over the state)

### DOCTORS OF MECKLENBURG AND SURROUNDING COUNTIES HEAR DR. SCHNEIDER

The Mecklenburg County Medical Society's set program for its meeting of April 18th was postponed in order that the society might have an address on Chronic Arthritis, by Dr. JOHN P. SCHNEIDER, Associate Professor of Medicine in the Medical School of the University of Minnesota, Minneapolis, who was visiting Dr. J. M. Northington.

Dr. Schneider spoke before the Charlotte Clinico-Pathological Society on the previous evening, and informally after a dinner given by Dr. John Hill Tucker at the Charlotte Country Club, on Pernicious Anemia. Not in recent years has a visiting doctor met with such enthusiastic appreciation. A movement is already under way to have him address the next meeting of the State Medical Society.

A MEMORIAL SERVICE FOR DR. WILLIAM A. JOHNSON, formerly professor of anatomy in the Wake Forest Medical School, who was accidentally killed last November, was held at the college on April 26th. Among the speakers were Dr. Thurman D. Kitchin, dean of the Medical School; Mr. C. R. Tew, a member of the first year class; and Mr. Carroll Weathers, of Raleigh, boyhood friend and classmate of Dr. Johnson.

DR. I. R. SELF, of Lincolnton, was installed as president of the North Carolina State Dental Society in Charlotte, April 17th. Dr. Self succeeds Dr. Eugene B. Howle, Raleigh.

DR. JOHN H. WHEELER, of Greensboro, was made president-elect; DR. WILBER JACKSON, of Clinton, vice-president, and DR. DENNIS F. KEEL, of Greensboro, secretary-treasurer.

DR. HOWIE and DR. JOHN A. MCCLUNG, of Winston-Salem, were elected to the board of dental examiners.

THREE OF FARMVILLE'S PROMINENT PHYSICIANS, Drs. C. C. Joyner, D. S. Morrill and John S. Hooker, have formed a clinic.

The second floor of a building on Main

street has been remodeled and so arranged that each physician has a private consultation room opening into a large reception hall for white patients, across from which is the waiting room for colored patients. A drug room, laboratory and operating room are well equipped, and two rooms have been fitted up for emergency cases.

DRS. CHARLES S. AND RUSSELL L. NORBURN, Asheville, announce that they will, in the next month, open a 20-bed hospital for surgical patients at the intersection of Watauga street and Montford avenue. Miss Violet McGill, formerly assistant superintendent of Biltmore Hospital, and for the past few years in charge of a hospital in Florida, will be superintendent.

A MODERN FIREPROOF HOSPITAL with a capacity of 100 beds, will be erected soon in Raleigh, through the generosity of Edward Monroe Harris, of Philadelphia, native North Carolinian, as a memorial to his father, Joseph A. Harris, who like his son was born in Raleigh, and who was for a number of years editor of the *Orange County Observer*, published at Hillsboro.

The memorial will be a general hospital for both charity and pay patients, and will be conducted without profit. It will be in the hands of a board of trustees, and will be supported by an endowment. It will supplement existing Raleigh hospitals, and by the addition of 100 beds will bring the total up to something like Raleigh's quota of 350 beds.

DR. W. R. GRAHAM died of septicemia at his home in Wilmington, April 18th. Dr. Graham was a graduate of the Medical School of the University of Virginia and was in his 61st year.

DR. J. F. KINNEY, of Bennettsville, S. C., died at his home on April 21st, of cerebral embolism. He was a graduate of the Medical College of the State of South Carolina and 56 years of age.



# Southern Medicine and Surgery

VOL. XC

CHARLOTTE, N. C., JUNE, 1928

NO. 6

## MALTA FEVER, WITH REPORT OF CASES\*

JOHN P. WILLIAMS, M.D.

Department of Medicine, McGuire Clinic

Richmond, Va.

and

FREDERICK W. SHAW, M.D.

Associate Professor of Bacteriology, Medical College of Virginia

Richmond, Va.

Malta fever has existed along the shores of the Mediterranean for hundreds of years and was most probably well known to Hippocrates, 400 B. C. Toward the end of the eighteenth century medical attention was focused on it due to the large number of cases occurring in Malta, and the name "Malta Fever" was given it at this time. Burnett gave an accurate description of the disease in 1814 under the name of "Remittent Malarial Fever," which view was held until 1887 when Bruce, a medical officer of the British army, discovered the causative organism. A commission of the Royal Society of London studied the disease from 1904 to 1907 and proved that goats were the source of infection, and that the organism was transmitted to man through the milk of these animals. The organisms could be found in large numbers in the urine and milk of infected animals which appeared to be otherwise healthy in all respects, and spread of the disease in the herd occurred through browsing over areas contaminated by infected urine, placental membranes, or vaginal discharges. They further showed that the organism could live for 80 days or more in dry dust and for at least a month in either fresh or salt water. The organism has been found to be pathogenic for all the ordinary laboratory and domestic animals.

In 1905 Craig reported the first case of Malta fever contracted in the United States. The patient was a nurse and the source of

her infection was never determined. In 1911 Gentry and Ferenbaugh, investigating a disease which had been prevalent among goat herders in Texas for 25 years under the names "Slow Fever," "Rio Grande Fever," "Mountain Fever," proved that it was really Malta fever. Yount and Looney in 1913 reported 5 cases in Arizona, and in 1922 there was an epidemic in Phoenix, Arizona, in which 40 cases were recognized. All these cases were caused by drinking raw milk from a herd of infected goats. It is now recognized that the disease has been endemic in the southwestern part of the United States (Texas, New Mexico, Arizona and Southern California) for at least 30 years.

In 1914 Kennedy, in England, was testing goat's milk for agglutinins specific for *micrococcus melitensis* and was using cow's milk as his control. To his surprise, he found that the control cow's milk agglutinated the organism in just as high titre as that of the infected goats. He later found that 5 or 13 samples of mixed milk from different dairies gave positive agglutinations. His findings were not explained until 1918 when Alice C. Evans, bacteriologist of the United States Public Health Service, showed that *bacillus abortus*, which causes infectious abortion in cattle, and *micrococcus melitensis*, which causes Malta fever in the goat and in man, could not be distinguished from one another morphologically, culturally, or serologically. Her results were substantiated by Meyer and Shaw, Feusier and Meyer, Khaled, and many others. Meyer, Shaw and Fleischner inocu-

\*Presented to the Thirtieth Annual meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.

lated guinea pigs with *m. melitensis* and *b. abortus*, and compared the clinical course and pathological changes in the two infections. They found them to be identical. Alice C. Evans inoculated a pregnant heifer with *m. melitensis* of human origin and produced abortion. Finally Khaled immunized monkeys and goats against subsequent infection with living Malta fever organisms by vaccination with *b. abortus*, and in 1924 Burnett, in Algeria, repeated this work with identical results using human beings instead of laboratory animals. The present view, which is backed by overwhelming evidence from many different sources, is that *m. melitensis* and *b. abortus* are closely related varieties of one and the same species of bacteria. It had long been recognized that the organism described by Bruce in 1887 as a micrococcus was really a short rod or cocco-bacillus; so the generic title *brucella*, in honor of Bruce, has been accepted for the whole species to clear up the difference in terminology, and the erstwhile *bacillus abortus* has been designated as "*Brucella melitensis*, variety *abortus*." For the sake of brevity the terms "*melitensis*" and "*abortus*" will be used henceforth in this paper.

In addition to these laboratory studies, the clinical course of the disease caused by infection with these two organisms in herds of cattle and goats is known to be the same. When a herd of previously normal goats first becomes infected with *melitensis*, abortion occurs in 60 to 90 per cent of pregnancies, whilst in the second pregnancy this percentage is much reduced, and in the third, though the animals are still highly infected, abortion rarely occurs but sterility is rather frequent. (Dubois, 1910). During this latent or carrier stage the organisms seem to be localized chiefly in the udder, but the secretion of milk is not reduced and in some cases seems even to be stimulated. This description would apply equally well to *abortus* infection in cattle.

In typical cases in man, the clinical course and symptoms of the two infections are identical, save that *melitensis* is likely to cause a somewhat severer and more protracted illness. There is a prodromal period of about two weeks during which headache, joint pains, and general malaise are the only complaints.

The fever ascends by a steppage rise just as in typhoid fever, and is remittent with several degrees of fluctuation during the day. Chills occur occasionally but diaphoresis is always profuse. The joint pains become severe though there is rarely any evidence of acute inflammation. Effusions into the joints sometimes occur and the organisms have been recovered from the joint fluid. Neuritic pains are common, especially along the sciatic nerve. There may be diarrhea but constipation is far more common. Congestion of the lungs with cough and expectoration is frequently present. There is also acute congestion of the abdominal organs with considerable enlargement of the spleen and liver which are usually palpable. Blood examination shows usually a marked secondary anemia and leucopenia with lymphocytosis, though cases have been reported in which there was elevation of the total white count with polymorphonuclear leucocytosis. After one to three weeks the fever subsides by lysis and the symptoms abate. The afebrile period may last a few days or several weeks but is followed by a relapse and a repetition of the course described above. Repeated relapses are the rule, and with each one the patient becomes progressively more anemic and emaciated. Due to the alternating febrile and afebrile periods the temperature curve presents a series of waves, hence the name "*Undulant Fever*," which is the most frequently used synonym. In favorable cases each succeeding relapse becomes less severe until they cease entirely, but convalescence is usually slow and the organisms may be obtained from the blood for months after the patient appears to be well. The duration of the disease may vary from a few months to several years. The prognosis is good in uncomplicated cases, the mortality being variously estimated as from 2 to 8 per cent.

In addition to the type of the disease here cited, three others are usually described for *melitensis* infection.

1. Ambulatory, in which there is no history of previous infection, and no fever or other evidence of disease save a high agglutination titre in the blood serum, and frequently, the presence of *melitensis* in the blood and urine. Shaw, E. A., in 1906, reported that the blood serum of 79 of 525

apparently healthy dockyard employees in Malta showed agglutination of *melitensis* in dilutions of 1:30 and higher. On 22 of these, blood and urine cultures were done with 10 positive results.

2. Mild, in which there is only a slight rise in temperature in the afternoon, and the patient is able to lead a fairly normal life though generally below par.

3. Fulminant, in which there is acute onset with severe headache and muscle pains, nausea, vomiting, and diarrhea. Pulmonary congestion is extreme with development of basal pneumonia. The patients pass rapidly into a typhoid state and die in from one to three weeks of cardiac failure. Two such cases have been reported from Michigan.

Our experience with *abortus* infection, up to the present time, has been limited almost entirely to the so-called typical case, but there is much in the literature which suggests that the ambulatory and mild types are much more abundant than the typical. Larson and Sedgwick have reported 72 positive agglutination and complement fixation tests from a group of 425 apparently normal children. Ramsey has reported 7 positive complement fixation tests, with *abortus* antigen, from a group of 116 children. Alice C. Evans tested 500 adult sera and found 59 positive in dilutions of 1:5 and higher. All of these cases were chosen at random and there was no reason to suspect *abortus* infection. Since all laboratory workers are agreed that *melitensis* is far more virulent than *abortus* (the ratio being about 6 to 1), it would seem reasonable to conclude that the percentage of mild and ambulatory cases caused by *abortus* would be much larger than the percentage caused by *melitensis*.

Malta fever, occurring sporadically, is very difficult to diagnose due to its close resemblance to so many common diseases. Bassett-Smith, who was on the British commission which studied the disease, says: "Even in regions where it is known to be endemic, undulant (Malta) fever is very rarely first diagnosed as such, but is nearly always first classed as malaria, rheumatism, typhoid, or pulmonary tuberculosis, and it is not until laboratory methods have been resorted to that the diagnosis is cleared up." To these conditions I would add influenza and streptococ-

cus septicemia. The truth of Bassett-Smith's statement is well illustrated by my cases which would have gone undiagnosed without Dr. Shaw's help. A positive agglutination test in high dilution, or a positive blood culture furnishes our only means of positive diagnosis at this time.

Keefer of Johns Hopkins reported the first proven case of *abortus* infection in man in 1925. Since that time sporadic cases have been reported from all sections of the country. Alice C. Evans, summarizing the literature in a recent article, reported 20 proven cases of human infection. Orr and Huddleston of Michigan reported 16 proven cases in the December, 1927, issue of the *American Journal of Public Health*. The source of the infecting organism in most of these cases has been raw cow's milk, though in some this could not be proved, and in two the infection seemed to have been contracted through the handling of infected meat in packing houses. Since it is a known fact that a very large part of our raw milk supply contains living *abortus* organisms (Schroder and Cotton, Fabyan, Meyer and Fleischner, Huddleston, etc.) it would be reasonable to suppose that this source would account for the bulk of the infections, and that most of the cases would occur in the rural sections where raw milk is habitually used. The Michigan cases and the cases here reported seem to confirm this supposition.

CASE No. 1—William Giles, age 6, of Howardsville, Va., a normal, healthy country boy, had never had a previous illness of any kind. He had lived all his life on the outskirts of Howardsville and had drunk large quantities of raw milk. For the past three years the source of this supply had been a cow that was never known to abort, but that had not become pregnant for two years in spite of the fact that efforts had been made to breed her. No goats were kept in the neighborhood and the child had never drunk goat's milk.

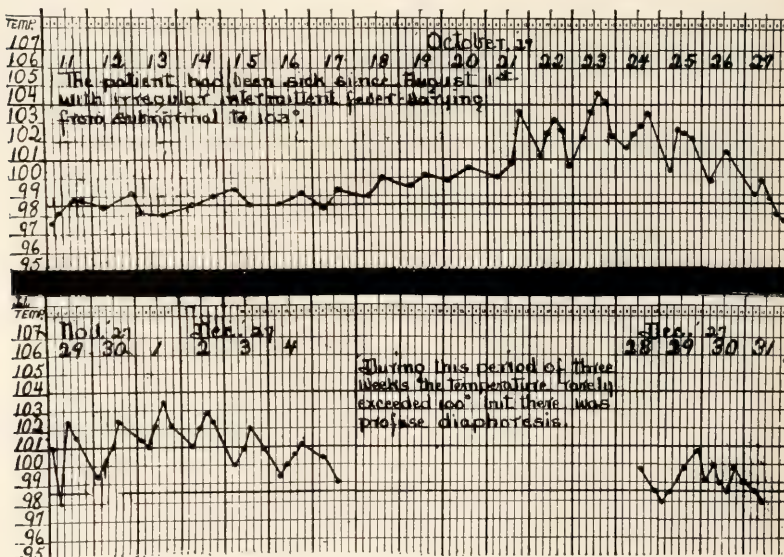
About February 1, 1927, he began to suffer with pain in the knees, anorexia and general malaise and his mother noticed that he was "clumsy and stiff" in his movements. On February 13th it was first noticed that he had high fever

and was sweating profusely at night. He began to complain of pain in head, neck, back and stomach. The following day the right wrist and left knee were swollen and he had pains all over his body so that he cried out when moved. He was very constipated so that sal hepatica had to be given every morning. He had chills occasionally and his temperature was irregular, sometimes reaching 104-105. There was nausea and vomiting when the fever was high. The glands of the neck and groin swelled and were very tender. By March 1st he was able to be up, but was forced back to bed a few days later by a return of his symptoms. His doctor thought he

closely that it was at first thought that he had measles, but the rash would disappear as the fever subsided and there were never any Koplik's spots. This phenomenon was present throughout his illness. He became progressively more anemic and emaciated and on June 1st was admitted to the Sheltering Arms Hospital, Richmond, Va.

The positive findings were as follows:

1. Irregular, intermittent fever which had been present for five months.
2. "Measley" rash which was present over the whole body while the fever was high but disappeared as the fever subsided.



had acute rheumatic fever with subacute tonsillitis, and tonsillectomy was to be done as soon as the acute condition had subsided. During April and May the child was never fever free for more than a few days at a time and his joint pains and sweats persisted. The fever was irregular and intermittent. When his fever was high his body was covered with a rash which resembled measles so

3. Profuse diaphoresis.
4. Generalized lymphadenitis, the cervicals being more enlarged and tender than the others.
5. Many moist rales over both lungs with cough and a moderate amount of muco-purulent sputum.
6. The neck, right shoulder and elbow, and both knees were painful on pressure



and passive motion, and the left knee contained a fair amount of fluid. There was no redness or swelling about the joints.

7. There was pain on pressure along the sciatic nerve and Kernig's sign was positive, but there were no reflex or sensory changes; no atrophy, paralysis, nor pyramidal tract signs.

8. The tonsils were hypertrophied and badly infected.

9. The heart was entirely normal.

10. The liver and spleen were markedly enlarged but not tender.

11. Laboratory findings:

Hemoglobin 60 per cent; erythrocytes 3,600,000 on admission which dropped

growth was found until Dr. Shaw was consulted. The explanation for this is that the cultures were thrown out when no growth was found on the fourth day, and *brucella melitensis* grows very slowly, usually five to seven days being necessary for adequate growth.

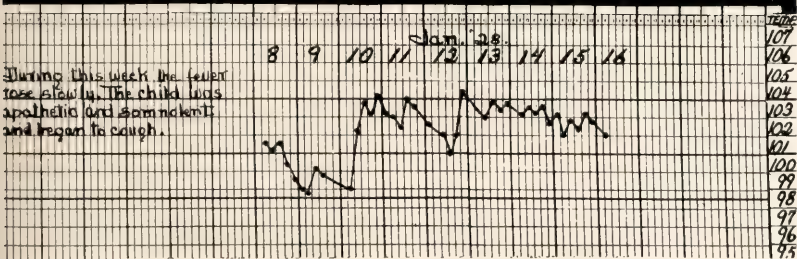
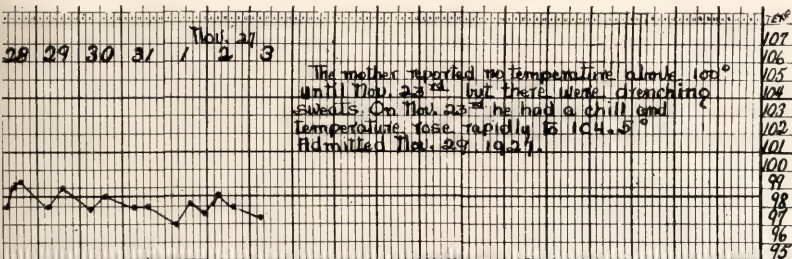
The widal test was repeatedly negative.

Urine and stool cultures were negative.

Blood examinations for malaria were negative.

Stools for blood, pus, ova and parasites were negative.

X-ray of chest was negative except for slight thickening of hilus structures.



to hemoglobin 40 per cent; erythrocytes 3,100,000.

Leucocytes 32,800; polys 66 per cent; lymphs 44 per cent on admission which decreased gradually to leucocytes 6,000; polys 10 per cent; lymphs 90 per cent (July 11, 1927). Leucocytes 4,800; polys 14 per cent; lymphs 86 per cent (Sept. 5, 1927).

The blood was cultured twelve times during his stay in the hospital and no

Examinations of the sputum for tuberculosis and the intracutaneous tuberculin test were negative.

Wassermann was negative.

Urinalysis was negative.

For the first week of his stay in the Sheltering Arms, the temperature remained normal and the child took his food well and appeared to be improving. On June 7th he had a slight chill and the temperature rose rapidly to 104 de-

grees and subsided promptly to normal with profuse diaphoresis. The measly rash was present for about two hours while the temperature was at its summit and disappeared completely as the fever subsided. For the next week the paroxysms occurred regularly on each alternate day, so in spite of the high leucocyte count (32,800) and our inability to find the parasites in the blood, tertian malaria was suspected and twelve grains of quinine was given daily for two weeks with no effect whatsoever as is shown by the temperature chart. Typhoid and paratyphoid fever had been ruled out by repeatedly negative widals, stool, urine and blood cultures. Miliary tuberculosis or tuberculosis of the spleen and lymph nodes were ruled out by negative intracutaneous tuberculin test. Acute rheumatic fever was improbable since after five months of continuous illness the heart seemed to be perfectly normal, the joints, though painful, never showed any of the swelling, redness or acute pain to be expected in this condition (except the left knee, which contained fluid), and large doses of salicylate of soda over a period of three weeks had no effect.

A consultant suggested the possibility of a spirochetal infection (relapsing fever or rat bite fever), so he was given six intravenous injections of salvarsan, one every third day, with no improvement. Another consultant suggested Malta fever, so a specimen of blood was sent to the Hygienic Laboratory for agglutination. This test was reported negative.

After a thorough search the only possible foci of infection found were the diseased tonsils and these were removed on July 28th, during an afebrile period, but this had no apparent effect on the course of his disease.

The entirely negative heart findings and the twelve negative blood cultures seemed to rule out bacterial endocarditis and ordinary types of bacteremia. By this time I was convinced that the patient had a blood stream infection and that the organism was an unusual one that could not be demonstrated by the

ordinary cultural methods, so Dr. Frederick W. Shaw, associate professor of bacteriology at the Medical College of Virginia, was called in consultation. He immediately suspected Malta fever and repeated the agglutination test against *brucella melitensis* which had previously been reported negative. The test showed agglutination only in one to five dilution which was negative for diagnostic purposes. He made both aerobic and anerobic blood cultures on various types of media and demonstrated the presence of *brucella melitensis*. This organism was obtained on three subsequent occasions, the last time being November 23rd, though the patient has had no fever since October 1, 1927, and has been up and about feeling entirely well since that date. In spite of the repeatedly positive blood cultures the agglutination titre of the serum has never been higher than 1:20, and was as low as 1:5 until very recently.

The variety of *brucella* isolated in this case was culturally, morphologically, and biochemically, *melitensis*, but it agglutinated in melitensis serum in the lower dilutions only, and it did not absorb very much of the agglutinins from the serum. Spontaneous agglutination in salt solution was marked. This variety has been designated *paramelitensis* and as far as we know *paramelitensis* has not, heretofore, been reported as found in human infections in this country.

Blood culture taken on January 9th was sterile, but on February 10th the patient began to have fever and the spleen is again palpable. The last blood culture has not yet been reported, but the agglutination test was done this time against a strain of *paramelitensis* obtained from the Hygienic Laboratories and was positive in a dilution of 1:1280 whereas the titre for *abortus* and *melitensis* was still low.

CASE No. 2—A white male child of four, of Brodnax, Va., was brought to the McGuire Clinic on October 12, 1927, complaining of pains in back and stomach, and progressive weakness and anemia of two months' duration. His fam-

ily history was entirely negative. When two years old he had had a severe attack of dysentery which lasted a month but recovery was good. Last year he had had a mild case of chickenpox. In other respects his past history was negative. He had never drunk goat's milk and there were no goats in the town in which he lived. All his life he had drunk large quantities of raw cow's milk and had eaten butter made from raw milk from the same source. The cows belonged to his father who bought them just after calving. His father does not know whether either cow had aborted prior to the time when he acquired them, but is sure that they have borne healthy calves since.

About August 1, 1927, the mother began to notice that the child was becoming pale and was complaining of pain in back and stomach. Prior to this she had noticed no abnormality and the child had been well except for a mild attack diagnosed colitis two months previously which lasted only a few days and did not put him to bed. With her attention once focused on the boy, she watched him closely and observed that he was perspiring profusely at night and at times during the day. His legs were sore and he walked stiffly. At night he slept poorly due to pains in legs and back. His doctor saw him frequently and observed that sometimes his temperature was as high as 102 degrees and 103 degrees and at other times was normal, and that the cervical nodes were enlarged and tender without sore throat. This condition persisted in spite of treatment and one week prior to admission to the hospital (October 12th) he had a rather severe febrile attack in which all symptoms were accentuated and there were seven to eight loose stools daily.

On examination at the hospital the only positive findings were:

1. Marked anemia, hemoglobin 38 per cent, red blood cells 2,000,000.
2. Leucopenia with lymphocytosis, leucocytes 5,000, polys 20 per cent, lymphs 80 per cent.

3. Enlarged liver.

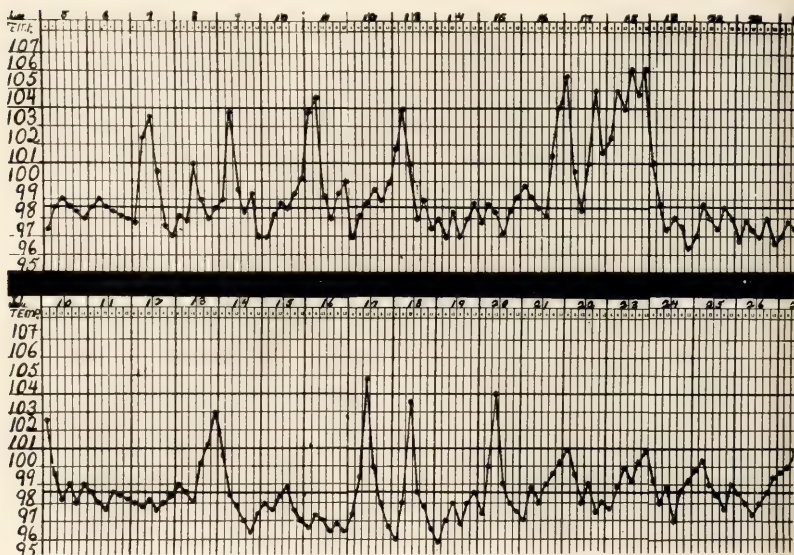
4. Trace of albumin and a few casts in urine.

It was decided to treat the anemia with transfusion and diet and to observe the child. The temperature was about normal on admission but immediately began to climb by a steppage rise until it reached 104 on the 20th of October. For the next five days the temperature ranged from 101 to 104 degrees each day. The child refused food and began to cry with pain in his legs, abdomen and back; the right knee was particularly sore. Following this the temperature declined by lysis and was normal on October 29th. Blood culture and stool examinations were negative. X-ray of chest and wassermann reaction were negative. Vital staining showed that there were only 0.2 per cent reticulated red cells. There was no evidence of hemorrhagic diathesis. He was given 300 c.c. of whole blood by the Lindermann method on October 21st, October 26th, October 31st, and discharged on November 2nd fever free, feeling well with good appetite and hemoglobin 62 per cent. He was told to return in ten days for check-up.

On November 16th the mother reported continued improvement with gain in weight. Hemoglobin was 62 per cent, red blood cells 3,500,000, leucocytes 5,000, polys 36 per cent, lymphs 62 per cent, mast cells 1 per cent, myelocytes 1 per cent. Urine showed trace of albumin and a few casts. On physical examination the liver could not be felt but the spleen was easily palpable in the left flank. A specimen of blood was taken for agglutination against *brucella melitensis* which was complete in 1:80, partial in 1:160, and slight in 1:320. The child returned home the same day before report on the agglutination had been received. His doctor was notified that the child probably had Malta fever and, if so, would relapse. He was asked to have him return if his fever and anemia occurred again so that another transfusion

could be done and special effort made to culture *brucella melitensis* from the blood to confirm the diagnosis. A week after returning home the fever returned violently and pains in back, legs and stomach began. The child refused to walk at all and had drenching sweats. On November 29th, when he reported to the clinic, the temperature was 103 degrees, the spleen was definitely larger, the legs were painful on motion, and the blood examination showed hemoglobin 50 per cent, red blood cells 2,700,000, leucocytes 3,800, polys 20 per cent, lymphs 79 per cent, myelocytes 1 per cent. The urine showed very faint trace of albumin and

160. He was given 300 c.c. of whole blood by the Lindermann method on December 2nd and was discharged December 5th with a good appetite, hemoglobin 65 per cent, and fever 99 degrees. The pains in back and joints were better but still present. He was seen again December 20th, at which time his temperature was 100 degrees, hemoglobin 54 per cent, red blood cells 3,000,000, leucocytes 5,000, polys 22 per cent and lymphs 78 per cent. His mother reported that the child had taken his food well but had refused to sit or stand due to the pains in back and legs. His fever had not been above 100 degrees during the



occasional hyaline cast. A blood culture done on this date showed a short gram-negative rod. All efforts to sub-culture this organism in sufficient quantities to do agglutination tests were unavailing though the literature was thoroughly combed and all the various recommendations followed out. The CO<sub>2</sub> tension was varied from 2 to 20 per cent with no effect on growth. The agglutination titre of the serum at this time was 1 to

past ten days, but there had been drenching sweats. He was sent home without transfusion.

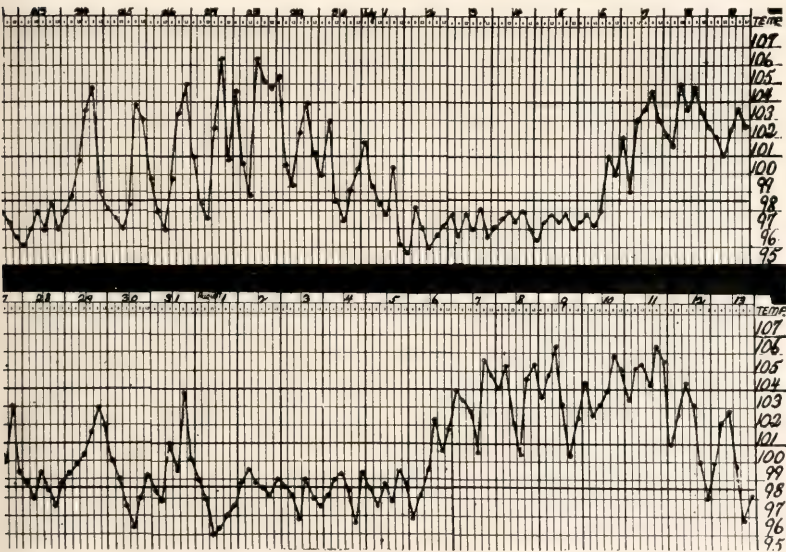
On December 28th he was brought to the clinic because he refused to eat, had vomited twice when forced, and complained more of his pains. Temperature was 100.4 degrees, hemoglobin 50 per cent, red blood cells 2,600,000, leucocytes 6,000, polys 26 per cent, and lymphs 74 per cent. He was given 300



c.c. of whole blood by the Lindermann method which brought the hemoglobin to 65 per cent. After one feeding by nasal gavage he took liquid and soft diet well by mouth and was discharged on December 31st with a normal temperature.

On January 8th he was brought to the hospital with temperature 101.4 degrees, respiration 30 per minute. His mother stated that he had been apathetic and somnolent, had refused all food and had vomited most of the food that had been forced. He had suffered much with abdominal distention and constipation, and had had a cough for the past few days.

coagulation time was normal. On standing the clot did not retract. The blood platelets were markedly reduced, averaging from one to two to each 100 erythrocytes (25,000 to 50,000). The liver and spleen were 4 cm. below the costal margin and very tender. There were moist rales at both bases but no signs of consolidation. On January 10th the temperature rose to 103.2 degrees and the child complained of pain in the right side. His cough had increased but there was still no evidence of consolidation. He was transfused on this day with 300 c.c. of whole blood from the same donor who had given him blood at his first



Hemoglobin was 40 per cent, red blood cells 2,400,000, leucocytes 5,600, polys 6 per cent, lymphs 94 per cent. There were several purplish ecchymotic areas on the arms and right leg, and a fresh subcutaneous hemorrhage on the lower lip. Application of the tourniquet to the arm caused immediate appearance of many petechial spots on the forearm. The child bled for 15 minutes from a needle puncture of the finger, but the

and third transfusions. This donor had received six hypodermic injections of *abortus* vaccine, the last dose containing about five thousand million organisms, but the agglutination titre of his serum was only 1 to 160, which was no higher than the patient's. There was very little febrile reaction following transfusion but within half an hour the child's face and body were covered with urticarial wheels which subsided promptly on administra-

tion of two minims of adrenalin (1:1000). Two days after transfusion the patient began to hemorrhage from the nose and bowel and there was continuous oozing from the wound through which the vein had been approached for transfusion. He became rapidly paler and weaker. His cough became progressively worse and the signs of congestion at the bases more marked. On January 15th he was transfused again, 200 c.c. of whole blood being given. There was no reaction and some temporary improvement but the following day he failed rapidly and died a cardiac death. Blood culture done on January 10th showed on January 16th a pure culture of small gram-negative rods, many of them coccoid in form and in pairs and short chains. Better luck attended our cultural efforts on this occasion and the organism was identified by agglutination absorption tests as *brucella melitensis*, variety *abortus*.

An autopsy was performed by Dr. S. W. Budd, pathologist of the McGuire Clinic, and the following report made:

Cause of death: Bronchial pneumonia.

Pathological findings: 1. acute splenitis; 2. cloudy swelling of the liver; 3. cloudy swelling of the pancreas; 4. hemorrhagic points in the intestinal mucosa and much old blood in the lumen. (There were no ulcers. Small greyish-white areas could be seen in the wall of the lower ileum and colon which were composed of accumulations of small round cells and polys in the submucous coats); 5. acute lymphadenitis; 6. cloudy swelling of the heart; 7. glomerulo-tubular degeneration of the kidneys; 8. a generalized perivascular infiltration of small round cells and polys in all the organs which was especially dense about the central veins in the liver lobules, and about the glomeruli in the kidney; 9. congestion of the bases of both lungs with small patches of bronchial pneumonia.

Dr. Frederick W. Shaw made cultures from the various organs and obtained *brucella melitensis*, variety *abortus*, in pure culture from the spleen, liver, and heart's blood.

In conclusion I would like to stress the following points:

1. *Brucella melitensis*, variety *abortus*, is abundantly present in raw cow's milk in all parts of our country.

2. Its pathogenicity for man has been established.

3. The paucity of reported cases is probably due largely to a lack of familiarity with the condition and the difficulty of its diagnosis, especially in the rural districts where laboratory facilities are least available and the disease is most abundant.

4. The economic loss caused by this disease to live stock raisers is well recognized, but adequate measures for its control will not be taken until its menace to the health of the whole community has been established. It therefore behooves all of us, especially the rural practitioner, to be on the alert and to have agglutination tests or blood cultures done on all suspicious cases, just as is now generally done for typhoid fever.

5. Boards of health should give adequate publicity to the condition, and should furnish the necessary laboratory facilities. They should also take note of the fact that four days is not sufficient time for growth of this organism.

6. The limitations of the agglutination test should be recognized. A positive reaction only in low dilution does not rule out the possibility of this infection, since several such cases have been reported in which the organism was found on blood culture. On the other hand, cases of tularemia will give high agglutination reactions against *brucella melitensis*.

7. People should be warned of the danger of drinking raw milk from herds known to be suffering with contagious abortion, and should be encouraged to have their animals tested for the presence of this infection.

## DISCUSSION

DR. JOSEPH L. MILLER, Chicago:

This paper is very interesting and very appropriate, as there must be a considerable number of cases of Malta fever throughout the country and probably many of them are overlooked.

The diagnosis is exceedingly difficult. We have a continued type of fever usually, but not always, associated with a leukopenia. It is well to suspect, in every patient who resembles typhoid and yet does not give a positive widal, that we may be dealing with a Malta fever.

I have seen two cases and the clinical picture was quite different in each. One was a gradual indefinite onset with a rather low-grade fever, characterized by gradually developing remissions in the temperature. The other began suddenly after a Thanksgiving dinner with gastro-intestinal symptoms and a very high fever with moderate general aching. Her remission was characterized by the drop in the temperature curve resembling the crisis in pneumonia—the temperature remaining normal for four or five days, then shooting up suddenly to the previous high level where it remained for a number of days, and then again an abrupt drop to normal where it was permanent.

The temperature remission is after all the most characteristic manifestation of the disease, but in many cases it does not appear until after the patient has had a continuous fever for several weeks.

DR. W. B. PORTER, Richmond, Va.:

I wish to thank Dr. Williams and Dr. Shaw for calling our attention to this particular disease. Recently I have had an opportunity of seeing a case in another hospital, which was very thoroughly worked up. It presents complications which I dare say most of us would overlook, in the presence of bilateral hydrops of the knee. It usually occurs in the very subacute or chronic cases. This was a man who came from North Carolina, from the mountains. He went to this hospital with bilateral hydrops of his knee, which continued to recur. Incidentally, they found while he was in the hospital that he

had a mild temperature. He had, incidentally, a positive blood test and a positive culture from the hydrops of the knee. The man who saw it was very much interested in it. He said he did not believe it was mentioned in the literature. I got the Osler issued in 1910 and found he mentioned Malta fever as occurring sometimes in subacute or chronic form, with low temperature and with bilateral hydrops of the knee. The old gentleman missed nothing.

DR. J. P. WILLIAMS, Richmond, Va. (closing):

I just want to mention two other cases which I did not report because I was unable to get positive blood cultures. A man reported to the dispensary of the Medical College of Virginia with sores on his hands. He had read much in the newspapers about tularemia, and since he had been handling and skinning rabbits all during hunting season, he thought that he might have the disease. A specimen of blood was taken for agglutination against *tularensis*. Now it is a curious coincidence that the serum of patients suffering with tularemia will agglutinate *brucella melitensis*. This being the case, Dr. Shaw set up agglutination tests with the patient's serum against both organisms and to his surprise found that it agglutinated *melitensis* in 1:80 dilution but did not agglutinate *tularensis*. When the patient returned the next day he was questioned by Dr. Shaw. When asked whether he had had typhoid fever, he said, "Yes, I was sick with it last year from the fourth of July to New Year's Day. I would get better and then get sick again." From the history and serological findings there is little doubt that this man had had Malta fever.

The other case was in a child two years old who had been sick with some curious disease since early infancy. It stayed anemic, had never walked or talked, had had frequent febrile attacks with cough and drenching sweats, and had a great big potbelly due to markedly enlarged spleen and liver. The child was thought to have von Jaksch's anemia and one of his little brothers was thought to have died of this disease. It is further interesting to note that his mother, though apparently healthy, gave a history of

four abortions. The agglutination titre of this patient's serum was 1:320, but two blood cultures were sterile. The child was given two transfusions and when last heard from was doing well. Both this patient and the one previously cited had drunk raw milk habitually.

Now I am a city doctor and most of my

patients are from the city where the milk is pasteurized, and still I have been able to find during the past six months two proven cases and two probable cases of melitensis infection. There is no telling how many cases of this disease might be found in the rural districts where raw milk is widely used.

## THE RELATION OF HABIT DISEASE TO MENTAL DISTURBANCES\*

W. C. ASHWORTH, M.D., Greensboro, N. C.

The close relation between habitual use of narcotic drugs and alcoholic liquors and mental upsets warrants the consideration and suggests the title of this paper. Those who have had experience in the treatment of these habits agree that the underlying principles upon which successful methods of treatment are based are to a large extent similar, so that the experience gained while conducting a patient addicted to any one drug through a course of successful treatments will be of inestimable value while performing the same service for another who may be addicted to the use of some other drug. When we approach the realm in which the drug habitue lives, moves and has his being, it is well to remember that practically all the theoretical knowledge which we have gathered in regard to the nature of drug addiction must to a large extent be disregarded; for the subject under consideration is presented to us, not as a theory, but as an existing condition of lamentable reality.

Of course, I am fully mindful of the fact that in a considerable number of cases drug addiction is solely due to members of the medical profession, who have very unwittingly continued the morphine beyond a reasonable length of time for some painful condition from which the patient has been suffering. I wish, just at this time, to specially remind the members of the profession that narcotic drugs are extremely subtle and insidious and that the habit as a consequence, especially when the patient is of a nervous temperament, is very easily formed. It is true that

the continued use of narcotic drugs will produce a neurasthenic state, regardless of the condition of the patient at the commencement of the habit. I do not think that any person can use narcotic drugs with impunity, since it is only a matter of time when the individual will suffer very seriously, both mentally and physically. The deplorable state of the chronic drug user should be a lesson to us who oftentimes have an opportunity to abort the habit in its incipency. The transition from whiskey to morphine is extremely easy, and the very common but unwise habit of prescribing or giving narcotic drugs to alcoholic patients should be carefully and seriously considered. I do not think I am exaggerating when I state that fully 80 per cent of my male drug patients give a history of alcoholism. It is not my intention to censure unduly the members of my profession, but I feel that I am within the province of my specialty when I at least sound the note of warning to the physician who is in the habit of prescribing narcotic drugs to his alcoholic patients. It has been my observation that most drug habitues give a history of a psychopathic tendency, and as a consequence, the formation of the habit is very easy. Narcotic drug addiction is readily, I think, classed among the toxic psychoses, in fact, a large percentage of all psychotics admitted to hospitals owe their condition to the use of narcotic drugs. The physical findings are always important, and usually indicative of definite toxic processes. The mental reactions are usually those of acute delirium, with characteristic behavior disorders on the basis of apprehension, hallucinosis and clouding of the sensorium. These reactions may be called

\*Presented to the Thirtieth Annual meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.



acute organic reactions, as the mental findings are usually transient.

The factors in the etiology of drug addiction are as follows, and may be summarized as:

First—association with narcotic users, the psychopathic inferior, the feeble minded and the criminal; all narcotic drug users, however, are not potential criminals; and second—chronic disease, particularly malignancy, neuralgia, asthma, neurasthenia, etc.

The determining causes may be summarized as: physical action of drugs; and moral and mental or physical inadequacy of the individual as a whole.

It is best not to consider drug addiction as a disease entity, but rather as a symptom of underlying personality defects on the basis of either intellectual insufficiency, lack of adequate emotional control, faulty habit training, or maladjustment of the instinctive life.

Morphinomania is the name often given to those individuals who use morphine to such an extent as to give rise to subjective and objective mental derangement. Further, this condition is practically always produced by those who use the drug subcutaneously and seldom in its internal administration. By continued use the patient becomes incapable of any mental activity unless he has previously taken the necessary quantity of morphine to give him the requisite mental and physical energy. The majority of those afflicted do not suffer from any chronic or incurable disease associated with pain, but are instead those troubled with neurasthenia, hypochondria and depression. Sooner or later, after the drug has been used for six months to a year or more, the symptoms of chronic morphine poisoning appear, manifested by the disappearance of fatty tissue, the skin becoming loose and flaccid, face ashen gray or possibly a dark red. The pupils become narrow and react sluggishly to light. Diplopia and paresis of the accommodation may occur. Tremor and disturbances of speech are common symptoms. Depression and restlessness and inability to perform mental work develop. The patient develops an untrustworthiness; his moral sense becomes dull, and a true toxic psychosis develops accompanied by sensory hallucinations or

attacks of syncope. Attacks of true mania are not uncommon and the patient comes under the control of fixed delusions. Suicidal impulses are not infrequent.

The alcoholic and narcotic question is positively one of the greatest medical and social science problems confronting the civilization of today. This is clearly evident from the widespread efforts and activities of societies, churches, political parties, humanitarians, philanthropists and scientists to control the evils from this source; and from the intense interest in the various efforts, ways and means of prevention and cure. Every sociological and scientific study of the degenerative diseases reveals the magnitude of the alcoholic influence, its intimate relation to individuals and society and its destructive effects on the social, hygienic and physiological development of the race.

Inebriety was regarded as a disease centuries ago—long before insanity was thought to be other than a moral disorder—and yet the studies and literature up to recent times has reversed this opinion. Inebriety is considered a voluntary vice and insanity a disease. Notwithstanding the advances of scientific medicine and the studies of mental disease, the theories of moral causation and moral remedies still occupy a prominent place in the discussion of inebriety.

The purpose of this paper is to group and study the phenomena of inebriety and its varied symptomatology from the scientific point of view, and show that the teachings of ages ago are sustained by modern research, and that inebriety is not a moral disorder, but a distinct neurosis and psychosis preventable and curable by the use of physical and psychical means and measures. As in other scientific work, the studies must begin with a knowledge of the causes and conditions which follow and precede inebriety. Statistical data with tables and charts are omitted because their conclusions are variable and open to many sources of error, and of necessity more or less transient and uncertain. Experience has shown that a clinical description of cases and studies of the surroundings and conditions suggest a great variety of exciting and predisposing causes that furnish a wealth of facts for further and more exact work. A discussion of the treatment of men-

tal diseases would be incomplete without the consideration of the treatment of the conditions resulting from the abuse of alcoholic stimulants and drugs.

Manifold disturbances of normal mental balance are encountered, varying greatly in degree. Frequently there is a mere general nervous weakness and relatively little functional impairment of the mind, while at other times actual insanity is present. The first group of cases presents symptoms resembling neurasthenia. The second group of cases presents symptoms of mental derangements more or less clearly expressed. Numerous instances, are, of course, found, presenting conditions intermediate between these two extremes. Most narcotic drug habits have their origin in an underlying neuropathic constitution. With many patients, the drug habit can be traced to the administration of a drug by the physician; but it is nevertheless true that in a far greater number of instances, the drug habit exists, not because of these incidental factors, but because the nervous system of the patient is of itself pathologic. The close relation observed in so many family histories of alcoholism, the narcotic drug habit, and insanity, can have but one significance—namely, an enfeebled organization with diminished powers of resistance.

Frequently the neuropathic condition does not assume a definite clinical form, the patient merely presenting a tendency to a neurasthenic breakdown, to general nervousness, or hypochondria. In other cases, the history suggests very strongly recurring waves of depression, analogous to those which are observed in a frankly developed case of melancholia. A brief consideration of the subject will convince us that the various stimulants and drugs have an effect upon the nervous system which is intrinsically the same. The clinical picture presented, of course, varies in its details, according to the special drug of habituation. When we analyze the mental affections that result from the abuse of alcohol, we find that they readily separate themselves into: first, alcoholic delirium, so-called delirium tremens; second, alcoholic confusion, so-called alcoholic confusional insanity; and third, alcoholic stuporous insanity, or alcoholic dementia.

Clearness of conception necessitates a

word as to the nature of the intoxication present in these conditions. In alcoholic confusional insanity, for instance, the symptoms persist for many months after the patient has ceased to take alcohol. The persistence of the symptoms cannot therefore be due to the alcohol, *per se*, but due to the presence of autogenous poisons, which are the results of disturbances of function in various organs, as the liver, the thyroid, the kidneys, adrenals and other glands and tissues. Alcoholic delirium closely resembles delirium from other causes. It is characterized by active and numerous fantastic hallucinations, among which visual hallucinations predominate. Illusions are present; consciousness is obscured; the patient is no longer in touch with his surroundings; mental confusion, pronounced and active, completes the picture. As in delirium from other causes, the patient sleeps little or none; the nutrition fails rapidly; the temperature is generally normal, though at times there is fever. As in other deliria, reflex excitability is increased. Tremor of the tongue and fingers is present; epileptiform convulsions may occur. The duration is usually short, the delirium continuing from one or two days, to one or two weeks. In favorable cases, the symptoms gradually subside. Recovery may ensue after a sound sleep, after the taking of food, or after a general quiet has been brought about. On the other hand, the patient's mental faculties may become more and more impaired; he may gradually become profoundly unconscious and may die of exhaustion, or renal complications, of enfeebled or fatty heart, or it may be of pneumonia.

Instead, however, of an acute alcoholic delirium supervening, there may develop a condition of more or less persistent confusion; especially is this result apt to ensue when a chronic alcoholic increases his consumption of whiskey beyond the usual amount. Alcoholic confusion is characterized by the same symptoms as characterize confusions depending upon other causes. Hallucinations and delusions unsystematized in character, are again present. Sleep is disturbed. Auditory hallucinations are numerous and pronounced. Visual hallucinations, on the other hand, are not so prominent in alcoholic confusion as in alcoholic delirium. Alcoholic confusion,

like confusion due to other causes, runs, as a rule, a prolonged course, over weeks or months. Finally, the patient may develop alcoholic dementia. In this dementia the patient may become stuporous, or he may present symptoms vaguely suggesting paresis, such cases being sometimes spoken of as alcoholic paresis.

Other cases, again, present systematized delusions and very closely resemble paranoia. It is highly probable, however, when the picture of paranoia is closely simulated, that we have to deal with the patient who is paranoiac at the same time that he is suffering from alcoholism. It is very probable also that alcoholism may, in a neuropathic subject of bad heredity, be an exciting factor in the development of paranoia. It is a remarkable fact, further, that alcoholic paranoia, so-called, is frequently characterized by a special delusion—that of marital infidelity.

From the foregoing brief summary of facts, we are to draw the conclusions not only that alcohol acts as a poison to the nervous system, but also that in its action resembles in a general way, that of other toxins. The delirium, the confusion, and the stuporous insanity resulting from alcohol differ in no essential way from the deliria, confusions and stupors due to other poisons or due to the various infectious diseases. Intrinsically, the phenomena are the same.

In reference to treatment of the narcotic drug and alcoholic habit, and insanities of intoxication, three important facts are to be prominently borne in mind; first, the underlying neuropathic constitution; secondly, the damage done to the nervous system and other organs by the poison; and lastly and especially, the secondary auto-intoxications. These considerations at once indicate that treatment must consist in something far more radical than the mere withdrawal of the drug or stimulant. A plan of treatment must be instituted which will favor as large a degree of recovery in the nervous system as possible, and which at the same time will take cognizance of the various visceral disturbances that have been induced.

With these preliminary considerations of conditions, I will briefly call your attention to the treatment of the various drug habits and insanities of auto-intoxication. The treat-

ment of alcoholic delirium is to be conducted upon the same general principles as the treatment of delirium due to other causes. The underlying asthenic state is usually so pronounced that our efforts to support the strength of the patient must be redoubled. Food should be given in as large quantities as possible, and at short intervals, say, of one or two hours. At the same time, strychnine and digitalis should be administered freely. Strychnine is especially indicated, and is most efficacious when administered hypodermatically. Digitalis can be used freely in doses of from 30 to 40 drops of the tincture at intervals of four hours. You must remember that in alcoholism the patient is far less susceptible to the action of digitalis than under other circumstances.

Whether or not alcohol is to be administered in a given case depends largely upon the physician's judgment of the individual case, and also upon the effect which is obtained from the use of strychnine and digitalis. When, in spite of other measures, the pulse fails, becomes frequent and weak, and the skin becomes cold and clammy, it is quite evident that alcohol must be given in full doses. As in other forms of delirium, it is also necessary to administer remedies to produce sleep. For this purpose, full doses of paraldehyde will, in the majority of cases, prove effectual and will greatly enhance the action of mendinal, sulphonal, etc. We should remember, in regard to the use of morphine, that alcoholics are sometimes dangerously tolerant to the drug.

In the management of chronic alcoholism we are especially to consider the underlying neurasthenia or neuropathic factors, and whatever plan of treatment we institute must take these factors into account.

In the treatment of morphinism much that has been stated in regard to the treatment of alcoholism is applicable, but unlike the confirmed alcoholic, the long continued use of morphine is but rarely followed by frank and outspoken insanity. There is, however, a marked diminution of the capacity of the patient for work or other sustained effort of any kind. The mental faculties are usually somewhat obstructed, though not always to a marked degree. The moral sense, however, always suffers severely. Generally the state-



ments of the patient are absolutely unreliable in regard to everything that pertains to the use of the drug. If the morphine has been used for a long period, more or less decided and persistent mental impairment follows, this condition is analogous to alcoholic dementia, but less marked. The patient frequently presents, besides, hyperesthesias and paresthesias of the extremities. His nutrition is poor, the skin is yellow, relaxed, and dry, the superficial fat disappears. The appetite is diminished, cardiac palpitation is of frequent occurrence, while asthmatic symptoms more or less marked in character make their appearance, especially in the intervals of the taking of the drug.

In carrying out treatment, as in alcoholics, we are confronted with the difficulty of controlling the patient. Only in exceptional cases can success attend the physician's efforts when continual supervision is not possible. No treatment is so efficacious as that by full rest methods, largely because of the complete control which is gained over the patient. As in cases of alcoholism, the patient should be kept in bed, carefully isolated, and should be placed on the diet especially adapted to his case, especially the diet which contains large amounts of milk, fruit and vegetables, and relatively small amounts of meats.

The management of these patients is no easy task; but they are worthy of our greatest endeavors; for after a long and large experience with them I wonder, with the author of the following lines:

"Can it be, O God in Heaven!  
That the highest suffer most;  
That the noblest wander farthest  
Most hopelessly are lost;  
That the badge of worth in nature  
Is capacity for pain;  
That the anguish of the singer  
Makes the sweetness of the strain?"

#### DISCUSSION

DR. JAMES K. HALL, Richmond, Va.:

Dr. Ashworth will appreciate, of course, what I have in mind in saying that there is no such thing as drug habituation. I mean there is no such thing as drug habituation if the thing be thought of as a disease. The

matter of living implies the necessity of constant attempts at adjustment to the individual universe. Each one of us has his own universe in which he must live. The individual universe is becoming more and more complex, because it is becoming larger and larger. The citizen of Virginia a hundred and fifty years ago lived in a small universe. The universe of the individual today embraces all of the civilized world, so that living is becoming progressively more and more difficult—mental living, I mean; that is the only kind of living that is worth while. All of us, each one of us, wants to live as comfortably and as efficiently as possible; and in order to live comfortably and efficiently each one of us does the best he can in the way of making that condition possible. Some individuals make the mistake of making personal diagnosticians and therapists of themselves. A good many individuals diagnose their own condition and administer to their own condition through the medium of drugs, in an effort to make themselves more comfortable and to make themselves also more efficient. All of us are habitues, of course; I am a coffee addict; I am a tobacco addict; I am a food addict and a water addict. The most difficult problem that the Federal Government is called upon to deal with is, I have no doubt, embraced in this term "addiction." The United States Government has undertaken, through Congressional enactment, to deal with a great medical problem—the problem of alcoholic and drug addiction. The attempt of the Government to do that successfully is, of course, a failure and will continue to be a failure, because the halls of Congress can not practice medicine. This problem has got to be dealt with by finding out why the individual resorts to the use of the drug or of alcohol, and this can be found out only by making a very profound study of the individual's personality. The matter with the individual may be within his own body, or it may be within the world outside of his own body. The cause of drug addiction may be physical disease; it may lie in troubles outside of the body. I think it is a mistake to think of physical disease alone as the cause of drug addiction, and I think it is a mistake to think of mental disease alone as the cause of drug addiction, but we have



to think of the addiction as a manifestation of the individual's difficulty in living; and the resort of the individual to the use of a drug or to the use of alcohol is at first understandable, because it is an expression of his effort to improve his personal situation. Eventually, as a rule, such an effort turns out to be bad for him; but he is trying to do the right thing for himself. Now, we have got to find out, if we are to have any sort of success with such folks, what is the matter with them. Here, for example, is an individual who is physically uncomfortable and who for that reason takes something, which develops eventually into a bad habit. Here is another individual who is mentally out of tune with life, and for that reason he takes something. He may be uncomfortable and unhappy and inefficient because of his particular sort of personality, his mental make-up, his outlook upon life; he may be worried; he may be apprehensive about his financial condition; there may be domestic discord as the underlying basis of beginning drug addiction. But we have got to realize that drug addiction constitutes an enormous problem; in my opinion the biggest problem in medicine; and certainly the most difficult and perhaps the largest problem with which the Federal Government is now attempting to deal. We have got to think of the situation in that way, and that is what Dr. Ashworth has been telling us.

I thank you for listening to me.

DR. M. L. TOWNSEND, Washington, D. C.:

I should like to bring up a suggestion of a feature which everybody has noticed who has seen these people coming off morphine. I wonder how far back in the history of that individual the seed may have been sown for a so-called addict? Here is a man, for instance, a doctor, who had been practicing medicine for some time, who has been married twice and has several children, in his delirium crying: "Oh, you damned fools,

when my papa comes he will tell you where to go." These people, in their early infancy, have failed to get the training which would fit them for life; they are spoiled babies; and when they get to be grown men they are still spoiled babies. They have never learned self discipline. When there comes to them a desire for something, that desire must be gratified. When there comes in their adult life a desire for relief from some pain or some condition, they have to have a drug for relief from that pain or that condition. A man who is thoroughly master of himself in life, and who for some particular physical reason has been given morphine over a sufficient length of time until he becomes a so-called addict, does not always take on the characteristics of an addict. I have in mind a man who has been taking from five to ten or fifteen grains for ten years, which was given to him for a definite reason, and that definite reason still continues. I have never seen a single sign of addiction in that man, yet he still gets his drug. When the pain is not severe he gets along on a grain a day; when the pain is severe he gets perhaps as much as fifteen grains a day. He gets along just as well and is just as happy—in fact, happier—on the one grain a day than on the days when he gets fifteen, because he has not that background of the addict.

DR. W. C. ASHWORTH, Greensboro, N. C.  
(closing):

A person who takes morphin for the relief of pain does not develop the facial appearance of the confirmed drug addict. The number of people who drink whiskey to excess as a result of just cultivating the social amenities is comparatively small; the greater number are the misfits, the people who have not found their niche in life. So long as life flows on like a song with them and the exigencies of life do not come thick and fast they go straight, but when the hard places come oftentimes they want oblivion and they resort to drugs or drink.



## OBSERVATIONS UPON DETERMINING THE DOMINANT FACTORS OF ILL-HEALTH IN COMPLICATED CASES\*

J. H. HIDE, M.D., Pungoteague, Va.

It has been suggested by some of the most acute observers that many men, in their eagerness for knowledge, sometimes become overloaded so that they are unable to use their stock of information to best advantage. In viewing our present state of marvelous progress in the various departments of medical science, and seeing the eagerness of so many of us to acquire varied knowledge, I have often asked myself if many of us do not sometimes use certain phases of our medical lore to veil or mystify what should otherwise be the simplest and most obvious truths; indeed, in some cases, doing what one of the great apostles once said: "Ever learning, and never able to come to the knowledge of the truth"; that is, using this very learning to veil the most important part of the truth—the real goal before us. This state of affairs may be true not merely from what may be regarded as a lack of symmetry in the scope of our professional knowledge, but oftener doubtless from a lack of skilful application of our knowledge in making proper estimates in the valuation of our findings. The man who has gained this latter accomplishment, when it is acquired purely by clinical observations, is often spoken of as one who diagnoses his cases by intuition. The late William Pepper of Philadelphia was one of these men, and our own, greatly esteemed Hunter McGuire was another. Both had simply acquired the art of making skilful estimates of their clinical findings, and then quickly forming their conclusions. To those who were unable to acquire this art it was all the process of intuition.

In making such statements I wish not to be harsh in criticism; for I fully realize the many difficulties we have to face to reach any marked degree of efficiency. Indeed, apart from the often required versatility of powers within ourselves, the very complex nature of the human body in itself is enough

to make a man of brains stagger when he fully considers what he is attempting to learn. A few decades ago gaining a fair knowledge of gross anatomy with a general knowledge of the physiology of the prominent organs of the body was an accomplishment indeed; but now we are expected to be carefully trained in the delicate functions of the sympathetic nervous system, the functions of the many glandular organs, and the sympathetic, corollary relations of these with the internal secretions. No wonder we are often puzzled when we must attempt to make correct estimates of our findings! This process is often a difficult task when only one dominant factor toward ill-health is to be found, to say nothing of the innumerable cases when we have to face many such factors. It is obvious then when several factors enter into such cases of ill-health we are more than likely to have greater difficulty in arriving at a solution in diagnosis and etiology. Indeed, it is also obvious, that oftentimes many patients' troubles could be easily diagnosed, if these patients were subjects of one disease only, or of one state of pathology; but, on the contrary, they often have an astonishing variety of morbid disturbances and functional disorders with varying symptomatology intermingled, representing collectively no syndrome of any single or specific disease; often rather serving to veil the real nature of the patient's condition. Such cases often tax the physician's clinical skill to the extreme. When such patients are seen many physicians, though able in their line, think of these patients in the light of pathology, ignoring practically everything else. If they can find no pathology, they are completely at sea. Others think in terms of symptomatology, and hence, often have great difficulty in deciding whether the case is a grave one, or merely a neurotic manifestation that simulates a grave condition. Still others, among some of the so-called specialists, see little more in such patients than such morbid disorders as belong to their own department of medicine, and so it goes—our scope of medi-

\*Presented by title to the Thirtieth Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.

cal knowledge advancing in every line, and yet the most essential feature of our knowledge, namely, its application, oftentimes far from satisfactory. To correct this tendency toward extensive accumulation of knowledge with a mediocrity in efficiency many plans have been devised and these are being constantly modified among these plans for greater efficiency group practice seems to be taking the lead, and in certain classes of work, especially in our cities, this modern form of practice has much to be said in its favor, since the patient's welfare is usually the prime object of each course of examinations. Even here, however, may be found difficulties in doing the best for patients, unless there is among them a physician who is sufficiently familiar with the character of his associates' findings to place a practical estimate upon their value in sizing up the patient's condition. This being true the final decision in this "court of appeals" must be a physician of general medicine. Moreover, without this sort of a physician when all the others of the group present their findings, the work certainly appears to me lacking in the most vitally important feature in our professional service, namely, that demanding a definite, responsible decision in regard to the patient's health. Just here, I may add, the public in the future will demand this; for what interests our patients the most is not the analytical, hair-splitting distinctions in the shades of pathology, nor the most modern technical names for various obscure findings, but an improvement in their general health; and when this feature appears a little vague and uncertain they soon become discouraged, and often hurry to the quack. Can you blame them?

With all due respect to group practice, as well as to all the various specialties in medicine, I feel very keenly that the public at large needs well trained general practitioners, grounded in clinical medicine. Here, you note, I emphasize *clinical medicine* because, with so much of the teaching of today in the laboratories, the average physician has a tendency to relax his hold on clinical medicine, feeling that the laboratory findings will practically settle all the difficulties in our complex cases. As long as this feeling exists we will never be at our best as general clini-

cians in the practice of medicine. Indeed, to be first-class general practitioners we are obliged to be skilled in clinical medicine. Of course, laboratory findings should be used also; but they should never be substituted for persistent clinical observations. When a man is really skilled in this side of medical science it is often surprising how much can be ascertained in regard to the condition of the average patient without any additional help, and this fact seem often forgotten by those who are constantly relying upon outside help. Clinical medicine is then the backbone of our medical science and art and it is largely through this department of our knowledge that the general practitioner is able to make his final decisions in his estimates of his patient's condition, in any given case, and in detecting the dominant factors toward ill-health.

To bring this matter home to us in a little more concrete form, I wish to present from memory an interesting case that came under my own observation about nine years ago. When I returned home from the world war, I was at once ushered into service to see a young married woman who had been under the care of several excellent physicians at various times—all of whom seemed to differ in their opinions in regard to her health, and all alike had been unable to relieve her multitudinous symptoms, or to give her family any degree of satisfaction. In examining into this case I was thrown entirely upon my clinical resources with only the help of her history. After finishing my hasty examination I was pressed for an opinion, and so gave a report that was startling indeed: (a) a neurotic temperament, (2) *pyorrhoëa alveolaris*, (3) probable chronic appendicitis of mild type, (4) pulmonary tuberculosis in upper lobe of right lung, (5) about two and one-half months advanced in pregnancy, with disordered digestion, (6) intense home-sickness, (7) spells of hysteria. All this seemed too much for her family; for they seemed to think that the young woman had some single disease that none of the doctors could discover, and the more they discussed my report the more dissatisfied they became. At last the young husband decided to dismiss me and carry his wife to recognized specialists; in each one of the troubles I had mentioned

in my report, beginning with the dentist. To his surprise, the dentist insisted that the pyorrhea, in his opinion, was the cause of her ill-health, losing sight of the other troubles. The young husband then tried the tuberculosis specialist—a very able and well-known expert in his department. He insisted that she had pulmonary tuberculosis and must go immediately to a tuberculosis sanatorium and remain there at least eight months. She was then carried to a hospital in Baltimore and a surgeon operated upon her for chronic appendicitis, confirming the diagnosis upon the operating table. The patient was soon sent home and treated for some time for the many, varied symptoms with little or no success. Finally, after some months of continued worries, I was called in and urged to take the case again. Feeling sure that the young woman's home-sickness had reached great proportions as a dominant factor toward her condition of ill-health, I sent her home to her mother and the other members of her family. Here she soon became much better satisfied, she could and would take a well-balanced, nutritious diet, and willingly observed regular hours of complete rest, quiet and the rules of general hygiene. Gradual improvement resulted and a little later on I delivered her of her child at full term. Improvement then continued rapidly, and at the end of two years the tuberculosis itself seemed cured. Since that time, about seven years ago, she has uninterruptedly enjoyed excellent health.

In presenting this case I wish to call attention to the fact that we had an unusual number of disorders, pathological and functional, appearing at the same time, and that they were all diagnosed by only clinical observations. No other methods at the time were at my command; and I insist here that

this is nothing remarkable, for thousands of general practitioners are doing the same sort of thing when occasions so arise. Why then should I not report it, even if it did appear in my own practice?

Further, in viewing a case of this kind I wish to state that any fairly well-informed general practitioner has greatly the advantage over almost any other class of physicians in sizing up the condition of the patient and in discovering the dominant factors of ill-health. Looking back over this case I really believe that the most important observation that I made in sizing up her condition of ill-health was recognizing the necessity to relieve the intense home-sickness. She was reared "the baby" in her family, and she was still an over-grown baby. Isolation on a lonely farm away from her relatives had become too much for her nerves, and the very thought of such isolation had simply become unbearable. There was no such thing as treating successfully the physical disorders in this case without correcting the psychological craving. If this statement is true—and I believe it is—then the dominant factor toward ill-health in this young woman was what we call home-sickness; and it illustrates to my mind that in many of our cases a mere diagnosis of the disease or pathology in question is still very incomplete work. After satisfying our minds as to the kind of disease and pathology we are dealing with in any case, the next step is to search carefully for psychological disturbances. Many a time you will find what the casual observer would pass over as a mere trivial occurrence alongside of a definite disease or a decided pathology — a psychological disturbance, looming up as the real dominant factor to be considered in giving your patient successful treatment.





## ULTRA-VIOLET RAY THERAPY\*

ROY C. MITCHELL, M.D., Mt. Airy, N. C.

Light is the universal source of life. It produces cheerfulness and health. Lack of it causes depression and disease. The principle in light having this effect has been isolated, controlled and measured, and can be produced artificially and used to preserve health and to cure disease.

In 1616 Sir Isaac Newton discovered that sunlight is composed of seven different colors—red, orange, yellow, green, blue, indigo and violet—and opened up the path to the fields of invisible radiant energy and to the production of artificial therapeutic rays. But Newton saw only the spectrum of visible light. In 1800 Sir William Herschel, repeating Newton, experiment, placed a clinical thermometer before each color of the spectrum, and noticed that when it was placed beyond the limit of the visible red rays it continued to rise, which proved the existence of invisible radiant energy. These rays, owing to their position in the spectrum, were named "infra red" or heat rays. In 1801, Ritter, noticing that silver chloride was blackened by invisible rays situated beyond the limit of the visible violet rays, rightly concluded that other radiant energy is present in the ether which is invisible to the eye. These radiations, owing to their position in the spectrum, he termed "ultra-violet" rays, and these are the rays which have been proved to exert the greatest therapeutic influence in the solar spectrum. In 1886 Heinrich Hertz discovered that electro-magnetic waves can be produced which have all the fundamental properties of light waves, but differing from them in wave-length, frequency and penetrating power. In 1893 Finsen published his early experiments on the physiological action of light, and announced the results of his treatment of tuberculosis of the skin with the Finsen light. In 1904 Kromayer designed the quartz mercury vapor lamp. In 1918 Huldshinsky first showed the value of ultra-violet rays in the cure of

rickets. In 1924 the Sunlight League was formed in England, having for its objective the abolition of smoke, dirt and slums; the restoration of the light of the sun to all who live in cities; and the education of the people to the new knowledge of sunlight as a means of health, teaching that it is a stimulant, a tonic, and nature's universal disinfectant. In March, 1926, the *British Journal of Actinotherapy* first appeared.

The actions of ultra-violet radiation may be classified as chemical, physical and biological. Brevity requires the omission of its chemical action. Its most important physical property is its transmission through quartz. It is not transmitted through ordinary window glass. Vitaglass, a preparation containing quartz, permits the free passage of it and affords heliotherapy in a closed room. In artificial radiation it is transmitted by the quartz burner in the mercury vapor lamp. Its biological effects will be noted later in the treatment of disease.

Of rays from the two sources of ultra-violet radiation—natural sunlight or artificial lamps—which has the greatest therapeutic value? The effects of rays from both sources are the same. The lamp, of course, has the advantage of being a convenient source of stronger radiation under standard conditions.

Under ideal conditions in the summer time, sunlight will yield as high as 7 per cent ultra-light rays. The mercury vapor lamp yields 28 per cent. The limit of the sun's supply are influenced by the seasons, by the clearness of the atmosphere, by the time of day, and by the altitude. The sun's rays reach their maximum intensity about 1 p. m. and the maximum range of the spectrum in the month of July. In winter the smallest amount of ultra-violet radiation is present. From May to September the intensity of ultra-violet radiation remains fairly constant, but from October to April sudden variations of considerable extent are commonly found. The time of day for ultra-violet radiation from the sun varies with the seasons and should be when the temperature in the shade

\*Presented to the Eighth District (N. C.) Medical Society, meeting at Greensboro, April 6, 1928.

is about 46 degrees F. In winter sometime between 10 a. m. and 3 p. m. and in summer between 6 and 11 a. m. and 3 and 5 p. m. It is not customary to expose the whole body at the beginning of treatment, only a small surface being exposed the first day, and this area is increased daily until the whole body is being irradiated. The head should always be shaded and dark glasses worn to protect the eyes.

In the use of the quartz mercury vapor lamp an initial dose of two and one-half minutes at a distance of 36 inches is a safe one for a child or an adult, and may be increased 1 to 2 minutes daily. Generally speaking, dark types can stand a larger dosage than fair and the reddish type is most sensitive. Children can stand about half the dose of an adult male of similar type. Women as a rule are more sensitive than men, and sensitiveness decreases as age increases. Children respond more rapidly to ultra-violet radiation than adults. The intensity of these rays varies, as does visible light, inversely with the square of the distance from the lamp.

The erythema varies and may be classed in four degrees of severity.

1. Very slight degree of reddening, 1 to 2 minutes at 36 inches from the lamp.
2. More reaction with mild irritation followed by fine desquamation—dosage 2 to 3 minutes at 36 inches.
3. Itching and burning followed by free peeling—dosage 5 minutes at 18 inches.
4. Destruction, swelling and blistering—dosage 7 to 8 minutes at 1 foot.

Degrees 1 and 2 are used in cases where general irradiation is required for constitutional conditions such as neurasthenia, or after illnesses, for tonic effect, gradually increased to one-half hour or longer; 3 and 4 for local conditions such as lupus, nevus, etc., where destruction of abnormal tissue is desired.

The Kromayer lamp is water cooled and is compressed against the local area to be treated by it.

Erythemas are produced as follows:

- 1st degree in 10 seconds
- 2nd degree in 25 seconds
- 3rd degree in 40 seconds

4th degree in 60 seconds.

The exact effect of ultra-violet radiation or protoplasm is unknown, but definite alteration in its chemical composition occurs, and these changes are governed by the laws of simple photochemical reaction.

In plants mercury vapor lamp irradiation inhibits growth but stimulates chlorophyll formation.

The reactions of man to ultra-violet radiation may be briefly outlined as follows: At the time of radiation nothing is felt by the patient excepting perhaps a faint sensation of warmth due to the incandescence of the quartz. No reddening is noticed at the time, but after a latent period, which varies with almost every patient, but is generally four to eight hours after exposure, a feeling of heat is experienced in the part. The part becomes red, hot and slightly swollen, and exhibits all the signs of mild inflammation, varying in intensity according to the dose and the sensitiveness of the patient. This erythema fades and is followed in four or five days by desquamation, although the hyperemia may last for several weeks. After continued irradiation pigmentation of the skin results. The rays have a strong bactericidal action upon skin infections such as acne or lupus.

Accompanying these changes in the skin are effects in distant parts of the body through chemical changes in the skin circulation and through influences on the sympathetic nervous system. Blood pressure above normal is lowered through vasodilatation in skin hyperemia and sympathetic alteration internally. Cholesterol in the skin is converted into vitamin D which stimulates calcium and phosphorus absorption, reducing anaphylactic reactions and preventing or curing rickets and repairing fractures. General metabolism is increased, antibodies in the blood are increased, raising immunizing power. The erythrocyte count and the hemoglobin percentage are increased. In the leukocyte count the polymorphonuclear cells are decreased and the lymphocytes and eosinophiles are increased in number.

The nervous influence is characterized by mental exhilaration and cheerfulness and a sense of well being. Nervousness disappears and insomnia is benefited. The rachitic baby,

too young for psychical influences, is relieved of its characteristic restlessness, night cries and spasmophilia. The whole disposition of children is often altered as calcium metabolism increases under ultra-violet radiation. There is increased mental alertness, which has been recently proved by intelligence tests.

The greatest field of usefulness of ultra-violet radiation lies in the prevention rather than the cure of disease. But it is, however, almost a specific remedy for such dissimilar conditions as rickets, surgical tuberculosis, alopecia areata, spasmophilia and hay fever. Because most diseases are benefited by its stimulation of the defensive mechanisms of the body an enumeration of all diseases benefited by it would place it in the low cast of "cure alls." So only common diseases in which it is of great value will be mentioned here. The air cooled lamp is used for general treatment and the water cooler Kromayer lamp for local lesions.

Eczema of subacute or chronic type—the more acute the weaker the dose.

Urticaria—A second degree erythema will often relieve the itching. Because of deficient blood calcium in the anaphylaxis causing urticaria, calcium should be given by mouth and twelve exposures, 2 to 3 days apart, beginning with two and a half minutes at 36 inches to both surfaces of the body, and gradually increasing to ten minutes at twelve inches.

Psoriasis—Since it is rare to find lesions on parts of the body habitually exposed to the sun's rays we would expect ultra-violet radiation to be successful in the treatment. This is the case. Third degree erythema is the dose and should be repeated four times in eight weeks after all lesions have disappeared. If the patches are well localized the water cooled lamp with compression is perhaps the most beneficial.

Rosacea—Mild hyperemic form is treated by second degree erythema from air cooled lamp. Hypertrophic type by blister with compression from water cooled lamp.

Acne vulgaris—Heavy exfoliative reactions are necessary. Four to six treatments are usually all that are necessary. In relapsing cases weekly exposures to x-ray are sometimes necessary.

Alopecia areata—This is the treatment of choice and yields 75 to 80 per cent cures. Fourth degree erythema dosages is used every ten to fourteen days or as soon as the previous reaction has faded.

Ulcers (varicose and tuberculous)—Weekly or bi-weekly exposures with dosage sufficient to cause reaction just short of destruction of new epithelium.

Lupus—Fourth degree erythema with treatments repeated upon subsidence of reaction from previous treatment. Ultra-violet radiation is the treatment of choice and gives better results than any other treatment.

Tuberculous glands—The results with ultra-violet radiation are so brilliant that excision will soon be obsolete. General body radiations of mild erythema dosage to increase the general resistance are used. Local treatment with third degree erythema.

Tuberculous arthritis and osteitis—Owing to the great variety of lesions space does not permit description of technique for each. General tonic irradiations are used to increase general resistance and strong local reactions are produced to separate the dead tissue and to stimulate healthy granulations in the sluggish wounds.

Rickets—Ultra-violet radiation may be safely regarded as a specific remedy for this disease. Animals fed on a vitamin-free diet and kept in darkness will develop rickets and die. But if they are kept on the same diet and irradiated for ten minutes daily with the quartz mercury lamp, rickets will not occur. The lowered calcium and phosphorous content of the blood in rickets will be raised to normal by a few irradiations in an average of fourteen days' time. Calcium is a nerve sedative and in calcium deficiency fretfulness and irritability develop, often leading to spasmophilia, tetany, laryngismus stridulus,

and possibly convulsions often seen in ill nourished, rickety children. One of the most obvious changes occurring after the first few irradiations is the change in the disposition from a cross, fretful infant to a happy, playful one.

General irradiation of the whole body gives the best results, beginning with two minute exposures of the back and front of the body at 36 inches and gradually increasing to 15 minutes back and front at 20 inches on alternate days. It is not necessary to induce erythema. Two months is sufficient for the severest case and the disease will not likely recur.

Contra-indications to ultra-violet irradiation:

1. If temperature is high.
2. Grave heart disease with broken compensation.
3. Acute nephritis.

4. Severe arteriosclerosis.
5. Acute eczema.
6. New growths.

Treatment should be discontinued if:

1. The temperature is raised after irradiation for more than 24 hours.
2. The patient is regularly losing a large amount of weight.
3. The patient is excessively nervous after the first two applications.
4. The treatment is followed by severe depression.
5. In psoriasis an acute eruption develops.

Great care should be taken when the following cases are irradiated:

1. Cases who have had hemoptysis.
2. Amyloid degeneration.





## SOME COMMON PROBLEMS IN GASTRO-ENTEROLOGY\*

W. RANDOLPH GRAHAM, M.D., Richmond, Va.

Medical problems may be said to be directly proportionate to a lack of diagnostic accuracy. During the past ten years gigantic strides have been made towards diagnostic perfection. Roentgen should be called the father of modern gastro-enterology, for in no department of medicine has his marvelous discovery been put to more practical use. Unfortunately, however, diagnosis is all too frequently a mere statement of the problem with its solution as obscure as it was three decades ago.

The advent of the x-ray brought about a diagnostic furor in medicine. For a time diagnosis became not only a necessity, it became the coveted goal. The diagnostician in the enthusiasm of his new found toy lost sight of the patient's problem, *cure*, in the glamor of his own accurate diagnosis. It may seem strange that so wonderful an invention could possibly become inimical to the patient's welfare, but in not a few instances it does occur. As soon as it was found that accurate diagnoses could emanate from a great number of men, not necessarily geniuses but simply well trained, this new thing began to lose some of its magnetism. Men's thoughts became directed into the channel of applying the truths found by others. This new turn of events was inevitable and at the same time a happy day for both the patient and the therapist.

Therapy is as old, probably older, than medicine. It needs be that the old must suffer at the birth of the new. Treatment of gastro-intestinal disorders was no exception. The sane stage, however, has finally been reached. The all importance of correct diagnosis is recognized but at the same time the even greater importance of applying the most accepted and appropriate therapy has once more come back into its own.

The problems chosen for discussion in the present paper involve both diagnosis and therapy. They are: chronic appendicitis and

certain forms of colonic dysfunction. A formidable pair indeed, and you are probably marveling at the courage of one who would dare undertake such a task in a fifteen minute period. It naturally follows that the discussion must be cursory, and deal with generalization.

## CHRONIC APPENDICITIS

So much is known of the pathology and treatment of appendicitis in general that when we see reports of symposiums on appendicitis we conclude at once that they were presented before some county medical society. That all is not well in our understanding of chronic appendicitis is now indicated by the presence of symposiums on this subject in the current medical and surgical literature.

At the 1927 meeting of the British Medical Association a symposium on this subject was presented. Both sides of the argument were well represented and I do not think it amiss to briefly summarize the opinions expressed at that time.

Wilfred Trotter admitted the existence of chronic appendicitis without pre-existing acute attacks and described in some detail the pathology it presents.

Victor Boney expressed the opinion that three gynecologic conditions in particular were responsible for faulty diagnosis in this condition in women. He enumerates these in the following order: disease of the right fallopian tube, cyst of the right ovary, particularly a blood cyst, and retroversion of the uterus with its resultant drag on the ligaments about the cecum.

A. J. Walton, like Willis Andrews, believes that chronic appendicitis should never be diagnosed unless there has been at least one acute attack.

In this country Robert Morris states that the most frequent type of so-called chronic appendicitis is that which leads to the largest number of mistakes in prognosis and which furnishes a worthless group of appendix operations. He describes it as an irritative lesion belonging to the normal involution of the

\*Presented to the Thirtieth Annual meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.

appendix consisting essentially of connective tissue fibrosis.

Hertzler recently in presenting his viewpoint as a pathologist was most emphatic in his conclusions that the so-called primary chronic appendix does not exist.

Not long ago a symposium on this subject was delivered before the surgical fortnightly review of Boston.

At this meeting Charles H. Lawrence presented a study of fifty cases, twenty-one of whom lost their appendices because of the symptoms of intermittent pain in the right lower quadrant, vomiting, nausea and disturbance of function of the bowels over a period of a year or more. Of the twenty-one who went to surgery none was completely relieved of his symptoms.

Edward L. Young, a surgeon, stated that approximately one in five patients at the Massachusetts General Hospital in whom the diagnosis of urinary lithiasis was positively made, had had from one to four previous abdominal operations in an attempt to relieve the condition. In the great majority the first operation was an appendectomy. He was further responsible for the statement that Deaver reported out of five hundred cases of chronic appendicitis operated upon 83.1 per cent were cured. But four hundred and eighteen of these had had one or more attacks of acute appendicitis previously.

Charles L. Gibson has drawn up a set of rules for the selection of cases for operation as follows:

- "1. A comprehensive and detailed history.
- "2. A complete and thorough physical examination, including all refinements of diagnosis.
- "3. Exercise caution in undertaking operation on women as compared to men.
- "4. Exercise caution, particularly in the more mature patients, particularly women. In this class other lesions may coexist or may be mistaken for appendicitis.
- "5. Avoid the neurasthenics of any age or sex.
- "6. Exercise particular restraint when there is no clear and reliable history of well-defined attacks, particularly of localized pain accompanied by nausea or vomiting.
- "7. Make a good-sized incision, and, even

if a frankly pathological appendix is found, look for other possible lesions.

"8. If no obviously pathological appendix is found, do not cease looking for other lesions until every other possibility has been exhausted; make a supplementary incision if necessary."

We have all doubtlessly felt at one time or another that the problem has not been satisfactorily cleared up. Too many patients are seen with a right lower quadrant scar and a continuance of symptoms. Perhaps my stand is too conservative yet I can but rarely get the consent of mind to make a diagnosis of chronic appendicitis in the face of a history which fails to bring out evidence of a past attack of acute appendicitis.

#### COLONIC DYSFUNCTION

Emery in 1925 opened up a new field for speculation when he presented three gastro-intestinal cases at the Medical Clinic of the Peter Bent Brigham Hospital.

*The first patient*, an Irish woman of forty, entered the hospital complaining of diarrhea, abdominal cramps and loss of weight. The patient had been sick for about two years. The stools were always greenish and slimy. During the past eight months she had vomited colorless mucoid materials. Two months prior to entry she had been put on a bland diet with rest in bed and her diarrhea ceased, although the cramps continued. In addition she frequently had fullness in the epigastrium and a sensation of being distended with gas. The symptoms were made worse by eating. Soda gave little or no relief. The patient had been taking castor oil every day for a year.

Gastric analysis showed a total absence of free hydrochloric acid.

All stool examinations showed them to be mushy or watery, and containing much mucus.

X-ray examination of the stomach was negative. A barium enema revealed a smooth colon free of haustrations, typical of a so-called chronic colitis.

*The second case* was that of a man fifty years of age who had always been well up to three years previously at which time he began to be troubled with indigestion. This consisted of a sensation of fullness or weight in the epigastrium, coming on around 10 a. m. or 4 to 5 p. m. Soda and eating usually gave

relief, but not invariably. He had vomited on two occasions with some relief. In addition to the above he was troubled a great deal with a sensation of gas and distention, and had considerable abdominal rumbling and gurgling. At times he would have cramp-like pains below the umbilicus. He gave a history of drinking considerably and on occasions would take enough to become intoxicated.

Gastric analysis showed a free hydrochloric acid of 105 and a total acidity of 135.

A barium enema revealed an extremely irritable colon and it was impossible to get the barium beyond the rectum, as the patient was unable to retain it owing to the marked contractions.

Stools were softer than normal and visible mucus was present in all.

I would like to call attention to the fact that practically all this patient's symptoms were referable to the upper gastro-intestinal tract, particularly the stomach. He had a symptom complex closely resembling that seen in peptic ulcer, except for the fact that soda and eating did not always give relief.

*The third case* was that of a man thirty-nine years of age whose complaint was abdominal pain, eructation of gas and loss of energy.

This patient had had gastro-intestinal symptoms for twenty years. Three years previous to this time he had had severe cramp-like pains around the umbilicus lasting five or six days. The diagnosis of chronic appendicitis and gall-bladder disease resulted in an operation but these organs were found to be normal. The cramps persisted after operation and the patient began to complain of frequent eructations of gas. He started to lose weight, feel tired, and went to California, where he was put on a raw fruit and vegetable diet under which his symptoms became worse. He had vomited at times when his symptoms had been most severe.

Gastric analysis gave a free hydrochloric acid of 40 with a total acidity of 54.

X-rays revealed no pathology.

The patient's stools showed an increased amount of mucus, and the only one obtained on an ordinary diet was softer than normal.

I have chosen these three cases of Emery's because they bring out so clearly the point I

wish to make. In the first two colonic symptoms are sufficiently outstanding to direct attention to the lower intestinal tract. According to Brown, the first case would be classified as gastrogenous, associated with achylia gastrica. The second, as one of the group due to alimentary irritants and in this particular case, alcohol. In the hands of others the first one is quite commonly diagnosed mucous colitis; the second acute or chronic gastritis, and the third is given any one of several different diagnoses, such as gastric neurosis, chronic indigestion, intestinal indigestion or even neurasthenia.

Upon analysis of the clinical findings, symptomatology and laboratory findings we see that all three were troubled with a sensation of distention associated with a sensation of fullness in the epigastrium, interpreted by the patient as due to gas. All of them belched a great deal with some relief. All had rumbling and gurgling in the lower abdomen. Soda gave relief only after belching. All three patients had been occasionally bothered with nausea and vomiting. The stools of all three were softer than normal. Mucus was present in the stools of all cases. Barium enemas gave the same findings in each case although varying in degree. It was the stomach alone that presented any marked contrast in findings.

Emery assumes the position, and I think his stand well taken, that if the symptomatology of the first two cases was colonic in origin, why not that of the third also? He thinks the local colonic condition is one of degree alone, and on this hypothesis he has elaborated his doctrine of disordered function of the colon.

To quote Emery: "The colon consists of a tube made up of smooth muscle and a complex system of nerves. The nerves are for the most part of the autonomic system and go to make up Auerbach's and the myenteric plexuses. In addition the central nervous system plays some role, as is evidenced by the well-known fact that mental excitement may produce a diarrhea. Now this colonic mechanism always has a certain stimulus acting upon it in the form of the intestinal contents. Under normal conditions the stimulus to activity is such that the mechanism works as it should. Under these

conditions we know by experience we can throw the system out of order in one of two ways. Returning to the idea of a threshold value, we can leave this unchanged and increase the stimulus sufficiently to break through. This may be done by the excessive use of cathartics, excessive use of alcohol, or the continued use of unduly irritating food. A single application of the increased stimulus by these means results in temporary derangement with diarrhea and cramps which subside as the stimulus subsides. If continued over a long period of time a chronic condition is set up which takes a longer time to recover from.

On the other hand the stimulus may be kept constant and the threshold lowered. This would appear to be the situation in the cases before mentioned, when through anxiety or mental excitement an individual is seized with diarrhea and cramps. And this seems to be the situation in the cases with an unstable nervous system. This is what we have in the so-called neurasthenic or neurotic individual. These cases have a low threshold value normally. A stimulus that can be tolerated in the average case will be too much for the nervous individual."

Hurst and others have shown that under normal conditions the colon becomes active coincident with the ingestion of food. Therefore, it is perfectly conceivable that in those cases in which an irritated colon (lowered threshold) already exists, the taking of food into the stomach might produce the classical symptoms of rumbling and gurgling, cramp-like pains or even diarrhea. Furthermore, it is not at all surprising that persons with these symptoms should incriminate their stomachs because of the fact their distress occurs coincident with or soon after the taking of food.

During 1926 Graves and Graves published a paper along the same lines as Emery's entitled "Irritable Colon." Although Emery had said nothing about constipation, these authors state that constipation is generally the rule though there may be a history of diarrhea or alternate constipation and diarrhea.

In my own experience this symptom is frequently met with in patients with classical colonic symptoms and they are al-

most invariably relieved by means of a colonic regime directed towards reducing intestinal irritation to a minimum.

The symptoms of disordered or irritable colon are diverse. They may occur at any place in the abdomen and may vary from the mildest type of distress to the most severe cramps. Patients commonly complain of distention for which they frequently loosen their clothes seeking relief. There is nearly always a history of gas and belching obtainable.

The treatment is essentially as follows:

1. Stimulating or irritating articles of diet must not be allowed, such as alcohol, pepper, spices, etc.

2. Rest in bed should be advised, as these people are usually nervous, high strung, ptotic and underweight.

3. Diet is of utmost importance. In the beginning the food should be almost entirely residue free. Raw fruit, coarse vegetables, fried and greasy foods are not allowed. As the patient improves, cellulose-containing articles are cautiously added until the patient is again on a normal diet.

4. Tincture of belladonna alone or with equal parts of tincture of hyoscyamus, 10 to 20 drops three or four times a day, is administered with a view to aiding in the relaxation of the spasm.

5. Heat in the form of a hot water bottle or an electric pad should be applied to the abdomen two or three times daily or whenever cramps occur.

6. In the event the patient becomes worried because his bowels do not move daily mineral oil should be prescribed, 1, 2, or 3 times daily to suit the needs of the individual case. In case the bowels should still remain sluggish, an enema should be given consisting of not over 500 c.c. of luke warm water to which a level teaspoonful of sodium chloride has been added.

Vaughan has shown the existence of an allergic factor in some cases of mucous colitis. This is an etiologic agent which must sometimes be taken into consideration. But we have found that even where allergy quite definitely plays an etiologic role the treatment must take into consideration local pathological changes in addition to the allergy. So much so that even in these cases the basis



for treatment is the colitis regime as outlined, the specific protein avoidance being secondary or incidental.

It is my belief that colonic hyper-excitability is a functional or rather dysfunctional reality and that it produces in susceptible individuals a group of symptoms which differ from those encountered in colitis only in degree. Unfortunately, because of the accompanying gas, belching, pain, nausea, vomiting, and tenderness, persons who present this syndrome are frequently diagnosed peptic ulcer, gastritis, gastric neurosis, gall-bladder disease, appendicitis, pelvic inflammatory disease, neurasthenia, etc., etc.

---

#### REFERENCES

1. Trotter, Dowden, Bonney and Walton: Discussion on Chronic Appendicitis. *British Medical Journal* No. 3492, pages 1063 to 1070, December 10, 1927.
2. Morris: *American Journal of Obstetrics and Gynecology*, Vol. 11, page 180, February, 1926.
3. Hertzler: *Ibid*, page 155.
4. Lawrence, Young and Swain: *Boston Medical and Surgical Journal*, Vol. 189, pages 671 to 677, November 8, 1923.
5. Gibson: *American Journal of Medical Sciences*, Vol. 168, page 807, December, 1924.
6. Emery: *Medical Clinics of North America* 8, pages 1765 to 1777, May, 1925.
7. Graves and Graves: *Southern Medical Journal* 19, pages 260 to 265, April, 1926.

---

#### DISCUSSION

DR. WARREN T. VAUGHAN, Richmond, Va.:

I have a man in Richmond in whose case I have made a diagnosis of appendicitis and I have advised him to have his appendix out. This would be a so-called chronic appendix. He does not want his appendix out and spends a good part of his time going around talking to his friends who have had their appendices out. He has about fifty per cent evidence either way. One man tells him he feels fine and to go ahead with the operation; another says he is no better. So he is still hanging fire. He gives a history of a definite acute attack of appendicitis years ago. There is the case in which we may get definite results,

but be careful of advising operation in cases that have not had definite antecedent acute attacks. Too often the pain in the lower right quadrant is due to a heavy cecum and visceroposis. The eye, ear, nose and throat man is paying attention to the upper end of the gastrointestinal tract and the proctologist to the lower end, but no attention is paid to the twenty-five or more feet between, where much is going on. In my experience, a lot of the poor results after gall-bladder surgery are due to the fact that the patients still have a spastic colitis, which still requires treatment.

DR. W. B. PORTER, Richmond, Va.:

I think it might be well to call your attention to certain facts about the pathology of this situation. I have been rather interested for the last few years in the pathology of this business we call appendicitis. The attention of the association has been called to gall-bladder disease and appendicitis. In these border-line cases it is rather interesting to know what the pathology is. We have the mucous membrane here, serous coat here, and muscle coat here (illustrating on blackboard). In these border-line appendices and border-line gall-bladders we find the majority of this pathology is round-cell infiltration in the muscle coat. We know the nerve supply is in here (indicating). The same thing occurs in the gall-bladder. The mucosa is quite adequate and quite normal. This round-cell sub-serous infiltration is probably the same throughout the entire alimentary tract. There has been a recent report by a pathologist on this point. If you will go to the cecum and other points you will find that the same pathology applies throughout the entire gastrointestinal tract. If you remove the gall-bladder, where the nerve ends are being irritated, or remove the appendix, where the nerve ends are being irritated, you still have a pretty long tract that it is not possible to treat surgically. That explains why we do not always get results from the operation.

As a corollary of that, I have had recently two cases of influenza with gastro-intestinal irritation. These appendices had a normal serous coat, with a highly inflamed mucous coat, with hemorrhage in the lumen of the

appendix. It is conceivable that similar pathology exists throughout the colon.

DR. ADDISON G. BRENIZER, Charlotte, N. C.:

A certain number of these people are relieved after an operation. I think it comes about in this way: the patient is told he has an appendix, and immediately he is subjected to a certain amount of worry. He knows persons who have had appendices and who were not operated on and had ruptured appendices and had a miserable time. He comes back to the doctor after the operation; you ask why and find out he has some symptoms, but he says he had some relief after the operation. Of course he had, but the relief was probably from his colitis, by the rest, careful diet, etc. I do not believe it is right to operate on chronic appendices; in fact, I do not know what a chronic appendix is.

DR. F. C. RINKER, Norfolk, Va.:

We all know that we have two types of constipation, an atonic type and a spastic type. We know that the spastic type takes more cathartics than any other individual living. I think a great many cases of colitis are due to the amount of cathartics taken, cathartics of the stimulating, irritating type.

DR. M. O. BURKE, Richmond, Va.:

In the majority of cases of indigestion we look for a definite cause, and in a great many

cases we do not find a definite cause. We may find there was a definite cause in the beginning, but we have to treat those cases as patients, as individuals, and not just one particular part of the body. It is mental; it is physical; it is digestive; and we have to try to remove the cause, if we can. In the majority of cases we can not, and then we have to rely upon nature instead of defying her.

DR. W. R. GRAHAM (closing):

I do not feel that time permits any further discussion of this question, although I think it is a very important one.

As regards cathartics, perhaps I did not stress my point; I was very hurriedly trying to get through. One of the first things I make the patient do is promise faithfully that he will leave cathartics of all kinds alone. That answers the cathartic question. I think cathartics are very frequently involved in colonic disturbances.

Diet is a very important factor. I remember a patient we had some time ago who had been filled up with all sorts of coarse foods, to eliminate constipation and who developed diarrhea. She was put on a bland diet, the diarrhea ceased, and she is still some weeks later, having a regular daily evacuation on a bland, non-irritating diet, instead of the original constipation.



## MARRIED TEN YEARS: NINE CHILDREN, TWINS THREE TIMES, ALL LIVING\*

J. W. McGEHEE, M.D., Reidsville, N. C.

It has been maintained that climate, race and the age of the mother and father influence the production of twin pregnancies. Bruder found that twins from one ovum are usually born of women under twenty-five years of age, twins from two ova, of women over twenty-five. Primipara are more likely to have one-ovum twins than two-ova twins. In every age of development one-ovum twins are the weaker, because obviously one placenta can not nourish two fetuses adequately. Two kinds of twins are distinguished: those that originate from a single ovum and those that originate from two separate and distinct ova. Two ova escaping from an ovary at the same time may be fertilized and ultimately developed into two distinct fetuses in the uterus. If the ova locate in close proximity, the two placentas fuse, but their circulatory mechanisms do not; if the two ova locate at considerable distance from each other, two distinct placentas are formed. Where the twins originate from one ovum homologous or mono-chorionic or identical twins result. The placenta in uni-oval twins is always single. There are usually two cords, though occasionally there is only one which bifurcates near the bodies of the fetuses. Uni-oval twins are relatively rare; Ahlfeld found only 15.57 per cent in 1,157 twin pregnancies. Although proof is lacking, many think that fecundity and a tendency to bear twins or triplets are inherited. Statistics gotten from all parts of the world seem to indicate that on the average 63 per cent are of the same sex. The average weight of twins is usually the same as the weight of a single newborn. Twin boys are usually a little heavier than twin girls. Twins are frequently of the same weight and height. One cord may be short and straight, and the other long and winding. One placenta may be more favorably located on the uterine wall. At birth one twin is usually stronger than the

other, due to difference in blood supply and the crowding of one on the other's space. One may be mentally stronger. Twins as a rule are more delicate and apt to have deformities. Identical twins may have the same weight, height, general appearance, likes and dislikes; especially is this true where their environment is the same. They are prone to become sick at the same time and frequently die on the same day.

The dissimilarity of twins is illustrated by the story of Esau and Jacob who, as it is recorded, differed even at birth. "The boys grew and Esau was a cunning hunter, dwelling in the field, and Jacob was a plain man, dwelling in the tents." As they grew older, Esau became a hairy man and Jacob had a smooth skin. The dissimilarity continues more or less throughout life, no matter how close the association, or how similar the living. Even joined twins may show striking dissimilarity. This is illustrated in the famous Hungarian joined twins, Judith and Helen. Judith was homely, nervous, hypochondriacal, Helen was pretty, healthy, with a happy disposition. Judith suffered frequently from neuralgia and convulsions, while Helen remained healthy, except for an attack of pleurisy. Menstruations occurred at different periods.

The Siamese twins also showed dissimilarity in characteristics. They married at the age of twenty-two and between them had twenty-two children. Cheng was weaker and of an equitable temperament; Eng was stronger though inclined to be melancholy. The brothers often quarreled. This occurred most often if one of them imbibed too freely. Finally Cheng developed hemiplegia, which was followed by pneumonia, of which he died. Eng witnessed the tragedy of his brother and asked to be relieved. The operation was performed at his request and his death occurred two hours after the death of his brother.

Forty to sixty-two and one-half per cent of twins die in first week. It is generally stated that twins have thirteen times less

\*Presented to the Eighth District (N. C.) Medical Society, meeting at Greensboro, April 6, 1928.

chance to live than the ordinary new-born baby. This information to a great extent was taken from an article written by Dr. Isaac Abt, Chicago, Northwestern University School of Medicine. Dr. Abt has a twin brother who lived to be 54 years of age and who attained great success in his profession.

According to statistics twins are born once in every eighty births, so we would have twins twice in the same mother every 6,400 births; twins thrice in same mother once in 512,000 cases. Twins four times in same mother once in 40,960,000 cases.

I have delivered 25 pairs of twins in my practice, which would give me an estimate number of labor cases of 2,000, which is approximately correct. I have delivered one woman of twins twice, and she had previously had twins twice; of the number only three children are living.

The cases I wish to present to you today are of peculiar interest for the following reasons: First, the father is 71 years of age and has been married four times; second, the mother is 27 years of age, married ten years and has nine children, of whom six are twins; third, all their children are living. There was born to the first wife one child, to the second wife eight children, to the third wife no child and to the fourth wife nine children. The father was born in Henry county, Virginia, near the famous Patrick Springs, and in my opinion he came nearer putting his foot in the fountain of youth than did Ponce de Leon. The mother was born in Alamance county, North Carolina, and is about twenty-seven years of age. These two were united in marriage September 6, 1917. September 1, 1918, twin girls, Margaret and Mildred, were born, Margaret being the older; her weight is 62 pounds, height 4 feet 8½ inches, eyes brown, hair black, same as Mildred's. Mildred's weight is 58 pounds, height 4 feet 8½ inches, height being same as Margaret's; hair black, eyes brown, same as Margaret's. Mose Thomas was born December 29, 1919; Oenis Thomas was born June 10, 1922; Fountain Thomas, jr., was born July 17, 1924. Judge and Jenkins, twin brothers, were born March 25, 1926. Judge was born first, his weight is 28¼ pounds, height 2 feet 5 inches. Jenkins' weight is 28¼ pounds, height 2 feet, chest measurements of each

being 20 inches and their waist measurements being 22 inches, showing they have had rickets. Their hair is black and eyes brown. Jenkins was born a short time after Judge.

On the morning of September 16, 1927, Veta and Veda arrived, Veta arriving two hours ahead of Veda; each weighs at present twelve pounds, height two feet, hair black, eyes brown. Veda's skin is lighter in color than Veta's. Both bear a striking resemblance to their father, who is 71 years of age. It is easily discernible that the children have or have had rickets. Their father and mother have to work, so the babies were first put on condensed milk, this being cheap and easily prepared. I saw them the last time about two weeks ago, and put them on lactic acid milk, orange juice, Squibb's pure cod liver oil. On account of their fiances the children were unable to obtain a Palm Beach tan this winter, but spring is here and we hope soon to give them a sun bath in their B V D's.

It is of interest to know that there was only one after-birth for each set of twins. This fact, with the marked similarity of each set of twins, would indicate that in each case there was one ovum. Heredity probably plays some part in multiple pregnancies. The mother in this case had twin sisters. Mattie's pregnancies and confinements have all been normal. I was with her when the last two sets of twins were born. The first time I was with her, she was well advanced in the second stage of labor and I had no time to make any external examinations. The baby was soon born and the second baby arrived a few minutes after the first one. I saw Mattie several times during her last pregnancy and I suspected twins and so told Fount, but I could not say I made a positive diagnosis.

To me this is a wonderful husband and wife, and when they have passed to the great beyond an appropriate epitaph would be, "Well done, thou good and faithful servants, enter thou into the joys of thy Lord."

#### ALMOST MUSICAL

First Clubwoman—"I noticed you talking to that old bore. Did she get on to her ailments?"

Second Clubwoman—"Yes; you might almost call it an organ recital."—*Pinch.*



## A PROCEDURE FOR HANDLING DIABETES IN GENERAL PRACTICE\*

E. J. WANNAMAKER, JR., M.D., Charlotte, N. C.

In any case of suspected diabetes, the urine specimen for examination should be obtained after the heaviest meal of the day. The specimen secreted at the flood period of digestion will show sugar if there is any tendency toward diabetes. The early morning specimen, so commonly used for routine examination, will not give evidence of diabetes unless the general condition is such that glycosuria is constantly present.

Every patient showing sugar, even following the heaviest meal of the day, should have a glucose tolerance test for the definite determination of the presence or absence of diabetes, and if diabetes is present the renal threshold for sugar should be determined.

The glucose tolerance test consists of giving 100 gms. of glucose by mouth (following a period of at least 8 hours of fasting), and noting by blood sugar estimation at one-half hour, 1 hour, 2 hours, and 3 hours thereafter the patient's ability to care for the glucose. Normally the blood sugar should reach an elevation of about 160 mgs. per 100 c.c. in about 60 minutes and return to normal within 2 to 3 hours, 3 hours being the outside limit of normal.

Prior to giving the test the patient should be kept on a basal diet for several days, if necessary, to get the urine sugar free. After the patient is free from glycosuria a preliminary fasting blood sugar estimation is done to determine if the blood sugar is within the normal limit, and if normal, the test is proceeded with. If the blood sugar is above the normal limit of 120 mgs. per 100 c.c., it is preferable to postpone the tolerance test until the blood sugar can be reduced to normal. Thereby, a definite standard of tolerance will be established with which a comparison of the patient's progress may be made in future years.

There will be many cases in which it will be impossible to get the fasting blood sugar

within the normal limit, and in such cases, the tolerance test will give no more information than the estimation of the fasting blood sugar made with the patient on a basal diet. For abnormal elevation of fasting blood sugar is conclusive evidence of diabetes.

In making the tolerance test, if it is desired at the same time to establish the patient's renal threshold for sugar, the patient must be given sufficient water for the obtaining of a urine specimen immediately after each blood sugar estimation, which should be taken at 15 minute intervals until sugar appears in urine. Thereafter, the tolerance test continues with the usual routine. Should a fairly good approximation of the renal threshold fail to be obtained, the patient must again be made glycosuria free and another blood sugar estimation made. On the basis of this a sufficient quantity of 5 and 10 per cent vegetables or fruit is given to insure a rise of the blood sugar well above the renal threshold. Urine and blood specimens are then taken every 15 to 30 minutes as indicated, though blood analysis need be made of only two specimens, the one collected with the first positive urine, and one corresponding with the last negative urine—the renal threshold being between these two readings.

After the determination of the glucose tolerance and renal threshold, the patient may be put immediately on an approximate maintenance diet containing in general for adults,  $\frac{1}{2}$  gram of protein per pound of body weight, and for children, 1 gram of protein per pound of weight. The remaining caloric requirement is then proportioned between carbohydrates and fats, being well within the simple anti-ketogenic formula,  $\frac{1}{2} P$  plus 2 times  $C$  equals  $F$  ( $\frac{1}{2}$  the number of grams of protein plus twice the number of grams of carbohydrates being equal to, or less than, the total number of grams of fat).

If the patient does not remain sugar free on the adopted maintenance diet insulin should be given. The approximate number of units of insulin needed is prescribed pref-

\*Presented to Mecklenburg County Medical Society, January 2, 1928.

erably giving somewhat fewer than the exact number of units thought necessary, the exact amount needed being finally determined by repeated examination of the urine with such adjustment of the insulin as is found necessary.

The advantage of blood sugar estimations over urinalyses is unquestionable, but blood examinations done at frequent intervals are very expensive for the patient, even should laboratory facilities be accessible.

It was to obviate the necessity for frequent blood sugar estimations and to otherwise follow the variations of blood sugar level, as closely as possible; that the following method of differential urinalyses was devised. By this method the general practitioner can closely regulate and control the average case of diabetes without further or only occasional blood sugar estimations after the diagnosis has been made and the renal threshold determined.

This differential test for glycosuria consists of the examination of specimens secreted by the kidneys during the four-hour period of digestion following each meal and also the specimens secreted between the termination of this period and the next meal, the bladder being completely emptied at the time of each voiding. The routine for collecting specimens would be as follows, with meal hours at 7:30 a. m., 12:30 p. m., and 6:00 p. m.

(The specimen voided before breakfast is considered as one of the preceding twenty-four-hour series)

Spec. 1. Voided at 11:30 a. m.

(Represents renal secretion from immediately before breakfast until 11:30)

Spec. 2. Voided at 12:30 p. m.

(Represents renal secretion over a short fasting period immediately preceding the next meal)

Midday meal at 12:30 p. m.

Spec. 3. Voided at 4:30 p. m.

Spec. 4. Voided at 6:00 p. m.

Evening meal at 6:00 p. m.

Spec. 5. Voided at bedtime (hour to be stated).

(Any specimens voided through the night to be saved and marked with hour at which voided)

Spec. 6. Voided on arising in morning.

With this routine, differentiation may be made between glycosuria persisting over the

24 hours, and that occurring after one or more meals. Slight transient glycosuria may be recognized with the exact time of its occurrence and insulin regulated accordingly. This being of considerable importance in severe cases with very high renal thresholds and in diabetic operative cases where close observation of the blood sugar level is desired. It is the constant hyperglycemia that does most damage to the pancreas. Patients with renal thresholds of 250 or more should at no time show more than a very occasional faint trace of sugar in their urine and preferably should be kept entirely sugar free. In patients with a relatively low renal threshold it is safer to permit a trace of glucose during the flood period of digestion. It is only by careful regulation of diet and insulin that the glycemic level can be kept below the renal threshold without going to the other extreme of hypoglycemia.

The patient should always be informed at the commencement of insulin treatment regarding the possibility of hypoglycemia and the early symptoms of its occurrence. Hypoglycemia is first recognized by most patients by a feeling of undue weakness and nervousness and possibly sweating and trembling. Considerable discomfort may result from abnormally low blood sugar and in the more severe cases it may cause unconsciousness and death. With even the mildest symptom of hypoglycemia orange juice should be taken and repeated as often as indicated, and when the orange juice is not sufficient to relieve the symptom, sugar in some form should be taken. In any instance in which hypoglycemia occurs with the prescribed routine being adhered to, the diet and insulin must be immediately readjusted to prevent similar recurrence.

#### AND PROBABLY NEVER GOT IT

"How much does that stylish doctor of yours charge?"

"Ten dollars a visit."

"Gee; how often has he called at your house this month?"

"Twenty times."

"Gosh; you owe him \$200, then."

"Nope; only \$10. He's made the other nineteen calls trying to collect it."—*Cleveland Leader*.

## More Essays On "HOW THE FAMILY DOCTOR CAN INCREASE HIS USEFULNESS AND HIS INCOME"

Submitted for improvement of the State of the Family Doctor—Stimulated by prizes offered through Southern Medicine and Surgery

DR. C. S. McCANTS, Winnsboro, S. C.

The status of the general practitioner is now attracting a great deal of attention. Presidential addresses are being made on the subject, society meetings are given up to this one thought, numerous writings and even poems have been published on the beauty, the glory, and the privileges of the general physician. For the most part they are eulogies on the foundation stone of the modern medical structure. The prize money for these essays may be well spent on flowers to adorn the "sick room" of the general practitioner. His epitaph is now being written, his art as we are now accustomed to write about and yet to see, will in the course of time be a memory of the evolutionary development in the practice of medicine.

The general practitioner has the same love for his work that he has always had; but the endearment of the patient, the personal touch of the patient toward the physician is passing. The ties that bind are no longer based on acts of self-sacrifice, long rides, night vigils and other unselfish acts. The actual performance of some definite service is expected by the modern patient. You may spend many a sleepless hour and labor long over some convulsive primipara to learn later that she has called another doctor to treat the infant because the other doctor "knows more about children."

Writers may argue that there is a place for the family physician. There is, and always will be, but the function of such a doctor is becoming more circumscribed every day. This impairment of function is begun by the doctors themselves by having the students taught by professors who are specialists in their certain fields. This is no place to suggest a remedy—if we had one—to offset this condition; however, it is a well recognized fact that general practitioners are no longer trained in the colleges. They are definitely trained away from it. The colleges

are not wholly to blame for this condition. The people desire specialists. The magazines for women, state and county boards of health, social workers and other health agencies have taught the people to seek a specialist. More and more these organizations are assuming the role of the general medical man. Lest we be misunderstood, we hasten to say that we think it best as an aid to our usefulness to co-operate with these modern influences. There may be some encroachment here and there, but you had best "get on the wagon," render the same service they do and better it if you can. In reality more work is created and more interest in health is taken by the people they reach. Preventive medicine is being well taken care of by trained agencies and at no visible expense to the people, so we general men will have to look beyond the contagious diseases for our income.

What are some of the ways the general practitioner may make his situation more comfortable? If you have a large general practice it is physically impossible to carry all branches to their scientific level. Therefore, in the first place, a technician or the use of the state laboratories is essential; that is, if you care to do more than the average amount of work. Whether or not this is the case a general man now must be able to do ordinary blood examinations and use a microscope. A blood pressure apparatus, a hemocytometer, a centrifuge, and a microscope are now as necessary as obstetrical forceps.

We must admit that no one doctor can practice medicine by himself. Having procured help or referred the case to a surgeon, strive for the proper recognition of your services both from the patient and your colleague. If the surgeon does not write you his findings it is well to write him for them, in order to keep a home record of these operations. This is of special value in women patients. Your interest in these cases should

continue while they are in the hospital and during their convalescence. Visit them whenever possible.

Besides the routine laboratory work that you can do in your office it is a useful and profitable plan to equip your office with instruments to render efficient first aid as well as some minor surgery. However, do not make the mistake of being loath to refer your cases. A general man is not an eye specialist, he is not an orthopedist, he is not a pediatrician, he is not the man that was once thought to know all the functions and diseases of every part of the body. People do not expect this vast knowledge any more except from the specialist, internist, or diagnostician.

It may not be amiss to advise some post-graduate work in some subject that especially interests you. Without being labelled a specialist, a course in diagnosis or any of the special subjects will certainly improve you in these lines and give you prestige. The money spent will certainly come back to you. A short course on rectal diseases will not make a specialist out of us but will enable us to treat them intelligently. Properly equipped there is no reason why a general man could not take out an uncomplicated pair of tonsils. With a little effort many of the perineums could now be repaired. To those interested in optics and eyes there is no reason why simple cases of hyperopia and presbyopia could not be corrected by the family doctor. He could at least do it as well as the optician. Intravenous medication, especially neosalvarsan, certainly should not be allowed to go to the specialist. The dispensing of your own drugs to selected individuals would be a source of much revenue. X-ray machines, sun lamps, diathermy outfits, gas and oxygen apparatus and similar agencies could be useful in some hands but a detriment and expense in others. Joint ownership of such agencies and sharing other overhead expenses, could be used to advantage by congenial men. To my mind it is best not to overload your office, especially if you are in a small town, with expensive equipment but rather to learn to use what is practicable.

There is one thing that we should continually drive home to our county officials and

that is the need of the people for county owned and managed hospitals. As certain as court houses have been established for the legal fraternity so will hospitals in due time make their appearance in county seats. It is obvious to everyone that both our usefulness and our income could be increased in such hospitals. In a town without a hospital it is an advantage to have your office at or near a drug store, as people are still in the habit of seeking a physician in such a location.

No rule can be put down for the specific amount of money that should be charged for services rendered. The standard of living among all classes has increased. The people demand and expect more careful and expert attention. Our scale of prices should be upward instead of downward or stationary. Fifteen dollars for an obstetrical case, visiting patient for nine days, is a relic of older days and we should strongly condemn its low fee as a means of increasing income. This low fee exists in my community in a prosperous mill village. The neglect to send statements, the excuse that you will have to "figure it up" and that you will send it soon all tend to discount our usefulness in the minds of our patients. Send bill monthly if at all practicable. The old subject of fee-splitting should be a dead one. The nearest to it that we are safe in getting is the practice of the group doctors.

The question as to whether or not a doctor should take part in leading social, church, and educational activities of the town we think is a personal one. As professional men we should conduct ourselves along high planes and champion all that is best and progressive in our community. Reading and culture is not confined to medical topics alone but we must be able to converse with people on subjects which are of interest to them. Some practice will be attracted to you on account of these extra-medical accomplishments.

The greatest loss to our usefulness and our income is our lack of adequate physical examinations. We know a doctor who has spent eight years in general practice and has never made a vaginal examination in his office. Is he being useful to himself or to his patient when he wheels in his chair and prescribes ergot for uterine bleeding? Examine



them, or if they will not submit to it, tell them that you will guess at them for a dollar. This will convince them that you could more intelligently treat them were you allowed to investigate their true condition. These services will be paid for, as people are being educated along these lines. They expect a more thorough examination than heretofore. An old negro woman in our community wishes the stethoscope placed all over her body, for she states that it makes her feel better everywhere it touches. Physical examinations to be most worthwhile should be periodic. Try to get them to submit to examination at least once a year, at a time convenient to them such as birthdays, etc. Record your findings and impress the patient with the fact that the value of his examination will be much increased by a checking of the condition at some later time. All of us are aware of the mild diabetic, the beginning nephritic, and the focal infections that we have found on a casual insurance examination. So, of all doctors, the general man should be a strong advocate of period physical examinations.

These are unconnected remarks but we trust to revive interest in our office equipment, our personal interest in our patients, our intended post-graduate course, our unbusiness-like methods of collections, our lack

of interest in county hospitals, in the well being of our town, our laziness in doing our office work, and our suicidal neglect of thorough physical examinations. May it awaken everyone of the family doctors to the fact that entrenched as the specialists are, the only way to compete is to do better than we have been doing as family doctors and cultivate some "garden spots," or, "pet patches" in the vast fields of general medicine.

Admonitions may not be beneficial, for it is a fact that most of us are in the place we deserve. The choosing has been to our liking. No formula or specification will fit every doctor in every locality. There is no set of precedents for a life of professional advancement and comfortable income. The basic principles of service and income will have to be forged into specific tools by the individual. We are the architects of our fortune.

"To every man there openeth  
A way, and Ways and a Way,  
And the High Soul climbs the High Way  
And the Low Soul gropes the Low  
And in between on the misty flats  
The rest drift to and fro.  
But to every man there openeth  
A High Way and a Low  
And every man decideth  
The Way his Soul shall go."

---

DR. J. M. MILLER, Wytheville, Va.

Let's notice some of the ways in which we differ from our predecessors that would affect the attitude of our patients towards us. Certainly so far as medical qualifications are concerned, we ought not only to compare favorably with, but should surpass the physicians of former years, as our advantages and opportunities have been far greater than theirs. There are certain ways though in which we have lost prestige with our patients. This is an age of commercialism and our profession has not altogether escaped its contaminating touch while appropriating some of its benefits. While a certain degree of commercialism, is, of course, necessary in the practice of medicine, as we, like other people, must have food and raiment, still, I believe there

are some vocations of too high an order to be gauged chiefly by the dollar mark. The true conscientious teacher, the true consecrated preacher, and the true mankind-loving physician belong to this class, and the further we advance into certain kinds of group, contract and other forms of commercialized or semi-commercialized practice, the further we depart from the high ideals of our predecessors, and the nearer we approach to state medicine with all of its attendant evils. If we continue the present trend, at the present rate, I fear it will not be many years until the physician will have become but a mere puppet in the hands of an autocratic state, or federal bureau, a mere collector of cases for the state, instead of a practitioner.

Again, there has probably never been another period in the world history when the call to service of our fellow men has been so loud and insistent as it is today. The Rotary, Kiwanis, and other civic organizations, bear witness to this fact. Are we physicians, in the matter of service, emulating the example of the Great Physician? Do a majority of our members respond cheerfully and ungrudgingly when called to the deserving poor? I am not now speaking of the "dead beat," nor of those who would not pay for services rendered if they could, but of those who would like to pay but cannot. For the habitual, chronic "dead beat" I have no sympathy at all—nothing but contempt. He is not worthy of the least consideration *per se*, but, unfortunately, he is often the nominal, supposed supporter, of the helpless wife and children, to whose call for aid in time of sickness and distress, we cannot turn a deaf ear, and be true to the traditions and ideals of our profession. Again, we have lost favor with our patients by considering them more as cases than as individuals, by devoting all of our attention to the disease condition, and none to the patient himself. A patient prefers to be known as Mr. Smith, or Mr. Jones, rather than a typhoid case No. 1, or a pneumonia case No. 2, and I do not think we can blame him. One of the best ways in the world to lose the hearty co-operation of a patient is to thoroughly convince him that we are more interested in his disease condition, than we are in him. Most sick people are morbid and over-sensitive any way, and soon tire of playing second fiddle even to a disease of which they are sole owner and proprietor, no matter how interesting it may be. Most patients flatter themselves into the belief, however much they may be mistaken, that they are worthy of much attention and consideration, aside from, and in addition to that received because of the disease to which they are host, and, unless we show them this consideration, they will lose interest and confidence in us, and we had better step down and out. The physician with much diplomacy and tact, other accomplishments being equal, will be far more successful than his fellow practitioner who is not equally endowed with these graces. Indeed, the man of mere mediocre ability, but possess-

ing much tact, will usually far surpass the man of marked ability who is deficient in tact.

Again, we are supposed to safeguard the health interests of the public to the greatest possible degree. Are we doing this? What are we doing to weed out the undesirables and charlatans within our ranks? Do not most of us move on complacently in the even tenor of our way, and allow these undesirables to fatten and grow arrogant on the proceeds derived from a trusting and unsuspecting public? I venture the assertion that there will not be a single physician read this who does not know at least one, within our ranks who should not be. Some of these may be thoroughly capable so far as medical qualifications are concerned, but absolutely unfit and undesirable because of moral or other delinquency. When these are finally exposed, perhaps by laymen whom they have victimized, does it not leave a bad taste in the mouth of the laity, so far as our whole profession is concerned? Would it not have been far better, both for us and the public, had we taken the initiative in their exposure?

What are we doing to safeguard the public against cults? Have we tried in the least to enlighten it in regard to these impostors? The public does not know that the various cults and pseudo-sciences have nothing in the way of good to offer that we cannot offer. The public does not know that every successful practitioner of medicine is, to a certain extent, a christian scientist, and that we made use of mental suggestion for the relief of physical ills long before Mrs. Eddy was born. Take away from christian science the good resulting from suggestion, and you have taken away from it all that can benefit the sick. Take away from the osteopath the good resulting from massage and manipulation, which we have practiced for a long, long time, and what has he left for the relief of sickness? Practically nothing. What of chiropractic? I am convinced that if there is any good in this, it is only through the suggestion made. The reason chiropractors often produce such a profound impression upon their patients, or victims, whichever is the proper term, is because of the forceful manner in which suggestion is conveyed to the receptive center by reason of painful,

brutal maladjustment of the vertebrae. This so-called treatment leaves tis victims so sore, and so full of pains, that when they begin to recover from its effects, they experience so much relief that they are willing to make oath that they are recovering from the primary trouble, if indeed, they had one. If we do not in some way enlighten the public in regard to the erroneous, unwarranted, flamboyant claims of these impostors, who will? Can we afford to treat these matters with indifference and unconcern? Are we true to our clientele if we do this? Some classes may wither and die because of indifference towards them, while others will grow and prosper. All that these latter ask is to be let alone, not interfered with, and for the most part we are complying with their request. But, is it safe to continue this course? Can we afford to accept too great a handicap, because of the righteousness of our cause? P. T. Barnum has been dead many years, but his dictum, that "the public likes to be humbugged," is still in force, and probably always will be. Many people never learn to take care of themselves, and since we have been accepted as the volunteer guardians of the nation in matters of health, shall we remain indifferent and unconcerned while the people are being humbugged, or shall we become aggressive? If it were a matter of mere dollars, if dollars were the only pawn at stake in this game, then we could afford to remain complacent, but unfortunately health and even life itself are the pawns.

So much for some of the blame attachable to doctors in the estrangement of physician and patient; with the resultant loss of usefulness to our clientele and income to ourselves. What of that traceable to the laity? The real cause here is as old as the history of mankind itself. It is that characteristic of the human race, which causes it to forsake the old and tried, for the new and untried. It is the same characteristic which caused the Israelites of old to forsake the true Jehovah, and make unto themselves graven images; the same trait that caused the Athenians to continually seek some new thing, dissatisfaction with, and discarding of the proved and valuable, for the unproved and perhaps worthless. This spirit is world wide, and to a certain extent to be commended, as there

can be no real advancement in a policy of complacency and satisfaction; but, like many other things potentially good, may be easily abused and carried too far. St. Paul said, "Prove all things, and hold fast that which is good." This is all which we of the medical profession ask. The great majority of our members are broad-minded enough, and unselfish enough, to wish success and God-speed to any man of any school, who is master of a better technique than we. But we, alone, know the awful cost of temporizing in certain conditions, of fooling away the precious days, oftentimes only hours, in incipient disease, when the manner in which these days or hours are utilized spells either life or death to the patient.

So much for some of the causes that have brought about this changed relationship between physician and patient, lessening both our usefulness to our clientele, as well as our income. What can be done to better these conditions? We, as well as the laity, must reform along certain lines. We must see that not the slightest taint of organized commercialism sullies the unselfish soul of our profession. We can be, and ought to be, business men in a dignified sort of way, but the spirit of a Shylock must under no circumstances be allowed to enter.

Again, we must be more considerate of our patients. We must convince by our manner that we are interested in them, as well as in their disease condition. I do not mean, of course, that we must pry into their private affairs, gossip with them, nor be "hail fellow, well met," with every Tom, Dick or Harry, who happens to be under our professional care, but I do mean that we should show ready sympathy and consideration.

Lastly, we must never compromise with quackery, no matter what form it may assume. It can subsist only on credulity and ignorance, and since others will not expose it, that duty falls on us.

So far as reform within the ranks of the laity is concerned, it is altogether a matter of education in regard to our profession, and since others are neither qualified nor willing to undertake it, this duty also devolves on us. We, of course, cannot change human nature, but we can sometimes change the viewpoint of an individual. People can be educated

along a certain line until a new perspective is established, whereby they will see things from a new angle, thus enabling them the better to weigh and evaluate worth. In this way the public can be taught to intelligently compare, then choose between the true and the false. We have already too long been wrapped in a cloak of secrecy so far as our work and profession are concerned; so, I would propose a campaign of education, in which the public would be informed regarding our profession. Since the public demands that we be truly progressive, why not convince it that we are, and have always been. I would suggest that a certain number of physicians be selected to prepare articles for publication in the most widely circulated magazines of the country, and perhaps also for broadcasting over the radio, telling of the advancement we have made, and are making, and, also, either directly or indirectly, whichever may seem the better way, expose quackery and the cults. It is needless to say that these men should be very, very carefully selected, not only as regards their medical qualifications and ability to think clearly, but they should also possess that rare but happy faculty of expressing their thoughts in forceful, pleasing and convincing language. If we are the custodians of the key to the physical well-being of the people of this country, if we are responsible for their physical fitness, then we should certainly inform them of our ability to serve them, and I know of no way in which the American Medical Association, and other medical organizations could better serve their members, and at the same time the public as well, than by such a campaign

as has been suggested. I can see no valid objection to this plan whatsoever. It may be claimed that the cost would be so great as to make it prohibitive. I am not at all sure but that it could be made an asset instead of a liability. These articles could be written in such a way, made so interesting and instructive, that probably the price which they would command, would more than offset the cost of the campaign. But even should this not be the case at the present, the dividends paid in the future, not only to us in the way of increased prestige and remuneration for our services, but to the public as well, in better health and all which that implies, would be enormous. It may be claimed that such a campaign would violate our code of ethics, either in letter or in spirit. I do not think so, but suppose it should—times change, customs change, and people change, and it is impossible for any mere man, or set of men, to devise and formulate any code that will be applicable in its entirety, to all times and all ages.

Is our code any more sacred than that all but inspired document, "The Constitution of the United States?" Yet it has been found necessary to amend this from time to time, and there is not the slightest doubt but that the same necessity will continue to arise in the future.

The sooner the public knows us as we are, the sooner will the former cordial relationship that once existed between physician and patient be restored, and the sooner will our usefulness and income approximate what they should.

---

DR. JOHN Q. MYERS, Charlotte, N. C.

The doctor's duty as a servant of his community, and as a servant of society when it is sick, should always be borne in mind as a reason for his existence. It should be his purpose to put over needed individual health information, to promote better understanding of medical and hospital service among his patients, to expose fraudulent methods and worthless remedies, to assist in every way possible to build up health in his town and county, to make his office and waiting room

attractive and keep such assistants as is necessary to care for his patients as they call at his office and to render such assistance to them as their needs may demand, with that spirit of love and sympathy which goes to attract one individual to another, and especially when an individual is sick.

For some years welfare workers, sociologists, and public health officials have been asserting, no doubt with good evidence, that the poor and the rich in our midst have the



advantages of the best medical treatment, but that the large majority of our people must be satisfied with the unorganized kind rendered by general practitioners. Many of our best clinicians insist that the change of emphasis from cure to prevention has caught the medical profession asleep and criticises the average physician for his inability to meet the demands of the times. In the past quarter of a century such preventive measures as anti-typhoid, anti-diphtheria, and anti-scarlet fever inoculations have come to widespread use, largely through wholesale administration by public health officials and philanthropic organizations to rich and poor alike. The plea has been made that these services are rendered as a part of the protection in general against infectious diseases and the safe-guarding of the public against epidemics.

Keep in mind, therefore, that the first and final aim of this article is to urge the physician to use his influence in the general good of all the people and institutions of good at his command. He should use his knowledge to educate the people to thinking about the best methods available for the best sanitary and health legislation in his community. He should never miss an opportunity to express in understandable terms the dangers of disease and their prevention. He should be ambitious and use his energy with all the force he can command for the improvement of his profession.

He should get out of the old rut of hidden mystery, forget the stork idea and study and impart information on sex physiology to the young people in his community. He should get away from the corner drug store and joke-telling crowd and equip an office that would be a credit to future medicine, a small room with proper chair, etc., for examination of nose, ears and throat; a room for examination of chest and abdomen, yes, a fluoroscopic room; a laboratory for examination of blood, urine and smears. He should keep a record of and filing system of all of his patients and urge from time to time the necessity of checking up the various disease conditions which are found, even if they are not causing any special discomfort.

The majority of physicians who have considered the question of the physician of the

future, are convinced that he must be a being of much the same type as that now prevailing among us. The modern physician swims a difficult course between the rocks of laboratory technique and the whirlpool of faith healing along with the numerous cult ideas. The physician of the future will have to deal with man as a human being. The general practitioner will be needed for the care of simple derangements of human function, for the relief of symptoms, and for sifting major disturbances from minor complaints, to teach the public their needs in health matters and to administer that touch of human kindness and service; he will apply the measures of preventive medicine, and will make regularly those examinations that detect disease in its earliest stage. In that sifting, he will call to his assistance the special aid to be derived from all of the laboratory and technical handmaidens of medical science and secure such help from the specially trained man as necessity demands.

The physician of the future, if he is to be successful in treatment of ailments of mankind, will deal with individuals as such, and he will receive his compensation from them rather than from a paternalistic state. The doctor must recognize that he is and should be the outstanding servant of the people, the servant of society when it is sick or in danger of being sick.

The young doctor who comes out of college and hospital training filled with ambitions and desires to carry on the work for himself like that which he has been doing, then allows himself when he settles down to associate with men who advise the young doctor that it is useless for him to open an especially well-equipped office but hang around and he will get some undesirable cases will never be able to assume the role in the community as the ideal doctor should who goes ahead and opens up an office which he himself will appreciate and enjoy staying in and where he can have room and equipment to carry on scientific medicine, investigation and treatment as he has been trained to do. My advice to the young man is to seek association with and consult with men well trained and men who are active and men who have the best equipment and are progressive, regardless of any promises which might be made

him by the less ambitious. It should be the ambition of all doctors, and especially the younger doctors, to associate themselves with the medical societies, and the social and civic circles of his town and community. It should be his desire to raise the standards and uphold the best interest in the general social, political, and commercial obligations of his community and ever be reminded that he owes the public and the state something in return for the honor and protection the laws of the state give him. It should be his avowed purpose at any and all times to promote sanitation, public health activities, public advice in the church, school, social, commercial

and civic organizations, all of which tend to make for his community a better place in which to live.

The physicians of today will accomplish largely for themselves and posterity, and develop even greater blessings than those of the past and the kind and benevolent public will not hesitate to pay in gold for such service.

Study the lives of our great doctors who have left footprints on the sands of time and you will find from the first meeting of the London Medical Society in 1773 to the present time the real men are and have been the active workers in the medical societies.

---

DR. T. R. LITTLEJOHN, Sumter, S. C.

Much has been said and written to laud the general practitioner. Does he always deserve such praise? When a patient goes to the specialist, then his doctor's lack of knowledge is shown up. The specialist usually does this in a diplomatic way. Yet he carries his point. Right here, I would like to say that I am a general practitioner, and I expect to be one as long as I am in active practice. It does not seem that the family doctor needs any defense. If he is the right kind of a doctor, he need fear no one. What the specialists are attempting to do to keep the general man satisfied, reminds me of what the business men are trying to do to keep the farmer satisfied under adverse agricultural conditions. Everything changes with the times, and what affects one line affects all; the chain stores have come to stay; the bankers are doing business in a different way from that of several years ago, and with the change in other lines, the methods of the family doctor must necessarily change.

Some one has likened the general man to a pointer, pointing the patient to the various specialists. Now right here is where the danger lies, for he might point him to the wrong specialist, as for example: A young woman is taken suddenly ill with a pain in right side, tenderness and fever. She is given a hypodermic injection of morphine, the next morning she is suffering more and is nauseated from the morphine. The general surgeon is called, and she has three cardinal

symptoms of appendicitis; namely, pain in right side, tenderness and fever. She has her appendix removed and may make a good recovery. The surgeon finds a "chronic appendix" with "adhesions." In the course of a few weeks or a month, she has a similar attack and urinalysis shows she has pus in the urine, probably blood. She is sent to the urologist, and after a careful urological examination she is found to have a renal stone or stricture of the ureter. The urologist relieves her. This shows unpreparedness for making a proper diagnosis on the part of the surgeon or that he was too lazy to do more than jump at conclusions.

A few years ago Governor Smith of New York, in co-operation with the medical association, had this problem of the family doctor *vs.* the specialist investigated. Twenty physicians conducted the investigation. The results of the survey showed something like this: In the smaller towns in bad weather the general men are busy; when spring comes along and the roads get good patients get in their cars and go to the cities, and have a thorough examination and the correct diagnosis made.

One of the most important steps in remedying the inefficiency of the general practitioner is a good laboratory. This does not mean that the laboratory should be an elaborate one. The most valuable tests are usually the simplest, and are very inexpensive to make. The average daily laboratory work

takes less time than the paying of one or two country calls and the physician who does not have time to do these tests can easily train a high school graduate in a short time. The average general man believes the specialist is

too scientific; whereas, the specialist believes the family doctor is too practical.

However, we cannot get along without the family doctor, and long may he wave with more test tubes and microscopes.

---

DR. C. B. HERMAN, Statesville, N. C.

Many physicians fail, not because of external opposition, but because of improper or unintelligent use of their own powers. What Andrew Carnegie says of business is true in the practice of medicine also: "Here is the prime condition of success, the great secret, concentrate your energy, thought and capital exclusively upon the business in which you are engaged. Having begun on one line, resolve to fight it out on that line, to lead in it, adopt every improvement, have the best machinery and know the most about it." Finally do not be impatient, for as Emerson says: "No one can cheat you out of ultimate success but yourself."

In order to do good work of any kind it is necessary to equip oneself with ample facilities with which to work. In other words, the physician not only needs a good education, but he also needs an office with sufficient equipment to do real work. Most men who graduate from medical college at this day have a good education; however, the education that one gets while in school is only a starting point from which arises the real education that is obtained after a few years' practice. It is imperative that professional men keep abreast with the progress which is being made in the medical world; and there is no better way to do this than to read good journals and other medical literature. At least once a year every physician should go away for a couple of weeks to visit various clinics and hospitals in order to learn more about things in which he is interested. No doubt some readers are saying that the cost of such a trip is too great for the good that will be obtained from it. This is not true, for patients will have more confidence in the man who tries to improve himself by this means.

Now a word about the workshop or office of a doctor. It is surmised that fully ten per cent of the doctors either have no offices

or very poorly kept ones. In a large number of physicians' offices the furniture is shabby and the books and other literature which the patient is supposed to peruse while waiting are many months out of date. The physician himself may be scrupulously clean but too many times his office does not reflect this trait in him. The writer, therefore, firmly believes that one way in which the physician can increase his income is to improve the appearance of his office. The reading matter in the waiting room should be up-to-date, for if it is not the waiting patient will probably develop the idea that the physician himself is out of date, and rightly so. The office should be well lighted, the furniture should be arranged tastefully, the floor should be kept clean and everything should be kept neat and orderly. Hardly anything helps the appearance of the waiting room more than some evidence of life, whether it be a potted plant, a bowl of gold fish or a canary. If he is too busy to look after this matter himself he can leave it to a secretary. Not only should the office be neat and cheerful but the physician himself should reflect the same traits. A proper personal pride will go a long way toward holding self respect as well as the respect of the patients. Also a cheerful disposition is of prime importance. No patient, who is already feeling bad, wishes to consult a man who is grouchy, ill-tempered or unpleasant. "A merry heart doeth good like a medicine"; a little laughter cures many a seeming ill. In order to be a "good mixer" one must most assuredly possess the virtue of being cheerful and optimistic even under the most trying conditions. Again Andrew Carnegie is quoted: "There is very little success where there is little laughter. A cheerful disposition is one of the elements of success."

The third point to be brought out is thoroughness of work. The physician can make

no greater mistake than the neglect of this all important phase. Many times he is so pressed for time that he yields to the temptation of just half-heartedly listening to the meager history that the patient will voluntarily give, and then, with a very superficial examination or no examination at all, writes the patient a prescription and sends him on his way, possibly to the grave. It is the path of least resistance but we should not forget that this path of least resistance invariably leads to failure. It is not because the physician is unable to take a good history or incapable of making a thorough examination; but that, in order to save time so that he can do a larger volume of work, he will "pass the buck," so to speak, until a later date, which date oftentimes is too late for the patient's welfare.

Most patients are exacting in their demands upon us. They make no concession to half-heartedness, inefficiency or plodding mediocrity. They expect their respective physicians to take as much interest in their case as if they were the only patient on the list. They expect him to be up-to-date on all the latest methods of diagnosis and treatment. Not only that; they expect the doctor to examine them thoroughly and they are looking to him for the relief of their symptoms, as well as the diagnosis of the condition from which they suffering. He is consequently doing an injustice to the patient as well as himself. The physician who examines thoroughly holds the confidence of the patient, improves his own ability and increases his income. Patients, as a rule, do not mind paying good fees for good work. Quality of work means more than quantity, and if the quality is good the quantity will be forthcoming. The physician should demand ample fees for his work, for his rewards will largely be governed by his demands. The patient who gives a history of having had diabetes some years ago, but has been sugar-free for some time is not necessarily cured. A blood sugar determination will often show an abnormal amount. Conversely the presence of sugar in the urine does not necessarily mean diabetes. Two patients are recalled who showed no trace of sugar in the urine yet the blood sugar readings were above 200 mg. per 100 c.c. in each case. All of

us are aware of the fact that the presence of albumin in the urine does not with certainty mean Bright's disease, yet how many take the pains and the time to find out the true condition by proper kidney functional tests. Many conditions, such as the various anemias, lucemias, etc., can be diagnosed by the blood picture alone. A smear or culture from the throat or urethra is often a valuable aid in diagnosis. The physician does not have to equip himself to take care of all these various laboratory procedures, for at the worst he is in mailing distance from a laboratory where this type of work can be done. He should have the patient go to this extra expense and show him wherein it is profitable to both.

Not only is it essential for us to make proper examination; it is likewise imperative to keep accurate records of each case coming under observation, making notes as to treatment advised and progress under such treatment. In short, we should follow each case through to a diagnosis. A compilation of accurate case histories is a valuable asset to any physician.

The patient should be informed as to the true nature of the disease from which he is suffering. Honesty with him along this line is usually appreciated, except in rare instances among the ignorant. As a rule the patient does not feel as though he has gotten value received for his money until a detailed report is given him. A satisfied patient is one that will return when the occasion arises, and a satisfied patient will nearly always pay the fee which is asked.

It is indeed difficult and oftentimes impossible to keep regular office hours at all times. Nevertheless, an effort should be made to keep appointments; for no patient likes to be given an appointment and find the doctor away.

Another way to improve one's usefulness is to regularly attend the various county, district and state medical meetings. Not infrequently physicians are inclined to feel that there is little or no help received from the meetings; that the speakers at such places are fanatics along some line or other. Occasionally this is possibly true, but there is at least an atom of good in most papers. Sometimes the attitude is taken that more is



known about the subject under discussion than the speaker knows himself; that nothing new is being learned. An active part should be taken in such meetings at various times by giving case reports, writing papers and delivering them. By doing this one is kept better informed regarding many conditions which he would ordinarily pass up without much thought. Here also is the place where a brother practitioner should be commended for any original or good work which he may be doing. It is human nature for each to expect praise where praise is justly due. Our appreciation of our fellows' qualities and achievements is often very inactive. All of us feel it, but say nothing about it; give it no tangible and encouraging form. Let's make it a point to praise our brother for his good work.

There is still another side to this question of attending medical meetings, viz., the social side. Here are met a large number of men who are doing the same type of work. Prejudices not infrequently exist between certain doctors in a given community particularly if one of the physicians in this community has risen above the others. Regularly attending these medical meetings will do much to suppress these petty differences. Prejudices do not harmonize with constructive work. When notices are received of coming medical meetings, professional duties should be arranged to enable us to attend.

The family physician can increase his usefulness to his community by urging public sanitation and personal hygiene, by advocating periodic health examinations for the seemingly well, by insisting that his patients be vaccinated in order to prevent certain of the contagious diseases and by giving health talks to the children in the various schools in his immediate vicinity.

In order to do efficient work, the physician must have rest and recreation. A week or two spent in vacation each year is time well spent. The family physician must necessarily be on the job so many hours both day and night that without proper rest and diversion of his mental and physical powers, he will not be able to withstand many years under the strain. Nor could he expect a tired brain to function as rapidly, clearly or accurately as a rested one. In this connection the physician should practice what he preaches.

Mark Twain declared that people talk a lot about the weather but nobody does anything. Physicians talk a lot about how to collect but don't do anything. The statement was made a little while ago that people did not, as a rule, mind paying good fees for good work. The physician should demand cash for office work except for an occasional case. Bills should be mailed out promptly each month. If the bill is not paid, or the patient has not been in to explain why he is unable to make a payment, after having mailed him three successive statements each month, then it is a good plan to have a collector go to see him. A female collector is much more satisfactory than a male. The collector can find out what the trouble is and can very often get the money. If she is unable to get results at the first time she calls, she usually is able to obtain from him a date when he will be able to pay. Having obtained such a date the collector should make it a point to be on hand at that time. If this method is used there will be exceedingly few bills on which a payment will not be made promptly; and fewer still where a legal procedure will be necessary. If a patient is forced to pay, he will return for treatment when the occasion arises.

---

DR. G. T. KLIPSTEIN, Alexandria, Va.

One great desire of the writer after practicing medicine for years is that he may live twenty-five years longer and see if as much advancement in all lines of medicine can be made in the next twenty-five years as in the past twenty-five. Realizing that medicine is the noblest profession to which mankind

can aspire, it naturally follows that it demands the best type of man to meet its full requirements. We are living in an age of more general education than the world has ever known and for a medical man to measure up to the dignity of the profession, he must be properly equipped physically, mentally,

morally and educationally. Thus equipped the family doctor can increase his usefulness and his income to any extent he may reasonably desire. In the first place no specialist has the opportunity to make good as has the family doctor. It is he who is called upon in the most sacred relationships of the home, especially the birth of the first child. That marvelous event in the life of the young couple, in a properly balanced home, when there is a bond of affection made between the mother, father and family physician that is never entirely forgotten and becomes a greater factor in extending his popularity and advertising him to the community than any other line of work. In times of illness in the home who is first called upon? The family doctor. In those calamitous cases that occur in the home, when the beloved daughter or son or even the head of the home has made a serious mistake, the first to be called upon is the family doctor, and who of all mankind can render such efficient service? So to try to measure the possibilities for good and usefulness of the family doctor in the life of the community is impossible. It can only be limited by the capacity of the doctor himself. Then again the family doctor has the advantage of all other medical men, because in all illnesses and accidents he is the first and the last to see the case. If he finds himself not surgically equipped to meet all the conditions of the patient, it is he who requests assistance; and just here I would make a suggestion that has been of invaluable assistance to me all through my professional career. Ask yourself this question: If this were my loved one would I assume complete responsibility of the case, or would I request assistance, and on this basis act? There is no member of the medical profession that gets as close to the very heart of the home as the family doctor. Let him never forget that silence is gold. When he enters the patient's home all that transpires within that home should be sacred to him. Nothing is more detrimental to the usefulness and success of the physician than for the public to discover that he makes conversation by discussing family troubles of his patients. He should not allow himself to make his visits too long. Mother Nature, unassisted, often works wonders. A little delay often makes

clear what at first seems obscure. Care should be taken not to get into the habit of giving too much medicine. There are few men more dreaded than the polypharmacist. A talented young physician when chided by an old lady because he put but two drugs in her prescription, when she told him her old doctor had put twenty-seven, replied that the old doctor used a shotgun but he used a rifle. The truer the diagnosis the fewer the drugs. One should never be afraid to acknowledge when convinced that he does not fully understand a case. He will stand better with the community and the profession. I know of no greater compliment paid a physician than to have it said of him, "That man is honest; when he does not know he frankly tells you so." He wields a power in the community that no other man can.

When in consultation the family doctor should never yield too much to the opinion of the specialist. He must make a careful diagnosis, and have an opinion of his own. He has seen more of the case than the visiting physician and should make him prove his diagnosis if they differ. Always demand proper courtesy on the part of the consultant. Many specialists are a long way from being infallible. I hope the time is not far distant when a man shall not be permitted to open up an office as a specialist until he has done general practice for at least five years. Until that time comes the family doctor is the sheet anchor for every community and is the most indispensable man in the profession. I am now talking about the ideal family doctor; the one who has kept himself abreast of the times, is fully equipped and is in love with his profession. A man who is a member of his State Medical Society, and two other societies and a constant attendant at their meetings, who makes it a point to inform himself on the subject to be discussed and takes part in the discussion.

The doctor must not be hypersensitive. He should pay little attention to unpleasant things that may be quoted as coming from other physicians. Jealousy is a green-eyed monster. He should also establish a rule to allow no day to pass without reading sufficiently in his medical journal or library to acquire one new medical thought. He should not fail to have in his library books of humor

and light literature; because there is always danger that the physician, seeing so much of the dark side of life, may become a pessimist. The physician should always endeavor to create an atmosphere of buoyancy, goodwill and hope in the sick room. If this be not his temperament naturally then he must cultivate it. The physician who cannot carry sunshine into the sick room is very seriously handicapped.

Now let us see how the family doctor can best increase his income. Give proper care to your personal appearance. Avoid overdress as much as shabbiness. Keep your office neat. Let your reception room have plenty of good literature on the table. Charge persons properly who are able to pay. Be very lenient with the poor. Do not let yourself be known as a cheap doctor. Your family is entitled to a proper support. Make

an office practice as near on a cash basis as possible; equip your office with some electrical appliances; also the most modern tables for gynecological examinations and minor operations. This work is often neglected, and properly seen after it yields a handsome income and increases the happiness and gratitude of many women. As a national malady neurasthenia is markedly on the increase and no one sees as many of these cases as the family doctor. If he is properly equipped to treat this trouble it can be made a very remunerative practice as office work.

I would like to see in every physician's office the motto, "Merit and labor have sure reward." Be a man of marked courtesy under all circumstances. The ideal doctor must be a gentleman. Separate the word gentleman, it needs no further explanation.

#### EPINEPHRINE: METHOD OF PROLONGING ITS EFFECT IN ASTHMA AND DEPRESSION OF SHOCK

In order to prolong the effect of epinephrine in asthma and the depression of shock, Howard Lilienthal, New York (*Journal A. M. A.*, April 14, 1928), added massage of the site of the injection. For instance, in one case cited, in which he had operated for tuberculosis of the lungs by thoracoplasty and by drainage of a large pulmonary cavity, asthmatic attacks were prominent and distressing. They had been relieved by injections of epinephrine but only for short periods. An injection into the subcutaneous tissues over the left deltoid was made, the dose being 5 minims (0.3 c.c.) of epinephrine 1:1,000. For nearly forty-eight hours the patient was able to relieve asthmatic attacks by massaging the deltoid region and this entire experiment, of injection and massage, was repeated several times. In a second massage, was repeated several times. In a second case, also tuberculosis with operation by thoracoplasty, an attack of asthma with loud musical rales in the better lung occurred. Here, also, the effect was most gratifying. Observations on the blood pressure were made, and the results obtained were similar to those reported by Luckhardt and Koppányi. The initial reading of 120 mm. of mercury before injection rose to more than 130 on massage, about forty-five minutes later. In a third case, similar to the other two, a woman, in whom the asthmatic attacks were very severe and had preceded the recognition of the tuberculosis, obtained considerable relief by this treatment. In one other patient, a young man, also tuberculous, no relief followed the use of epinephrine, nor was there any hemodynamic effect even after the initial injection. Lilienthal has also applied this method in shock following an operation for perforated duodenal ulcer. There was great depression with ischemia and extremely low arterial tension, 75 systolic and 0 diastolic. The abdomen was soft and there had not been any evidence of abdominal infection. The arterial tension had risen to 82 systolic and 50 diastolic

when the patient was first seen. Immediately after the injection of 5 minims (0.3 c.c.) of epinephrine hydrochloride, the systolic pressure rose 10 points and the second cardiac sound, which had been almost or quite inaudible before, clearly returned. An hour later the depression had recurred but the tension rose 10 points on massage of the injected area.

#### FETAL MORTALITY AFTER INDUCTION OF LABOR BY CASTOR OIL AND QUININE

Torleif Torland, Seattle (*Journal A. M. A.*, April 14, 1928), has seen two cases of idiosyncrasy to quinine when used to initiate labor. One patient manifested a violent skin eruption and edemas. As far as induction of labor is concerned, the quinine was unsuccessful in this case. One week later, spontaneous labor started and she gave birth to a normal child. The second patient complained of a severe headache, ringing in the ears, deafness and slight dyspnea. Shortly after she had taken the quinine large swellings developed on her face and on the extremities. Her eyes were almost closed. The skin was purplish red, with areas of dark bluish spots all over. The temperature was 104 F. This temperature, however, quickly subsided, and on her admittance to the hospital several hours later there was no fever. She had slight labor pains. Fetal heart sounds could not be found anywhere in spite of repeated thorough examinations. The patient stated that shortly after the quinine had been taken she had felt distinct, strong repeated motions of the baby. Labor progressed satisfactorily. About eleven hours after onset of labor and sixteen hours after the giving of quinine, she was delivered of a well developed, stillborn baby boy. It is evident from these cases that the use of quinine in inducing labor is not entirely without danger. The pregnant woman for whom the drug is intended should always first be questioned as to probably idiosyncrasy and, when this is suspected or proved, the quinine should be omitted from the procedure.



## PRESIDENT'S PAGE

Tri-State Medical Association of the Carolinas and Virginia

*Jas. K. Hall*

Not infrequently some man or woman in coming into my office is considerate enough to express regret at having to bother me with his or with her own troubles. That occurred only a day or so ago. But I told the very attractive young woman that her troubles did not trouble me. They excited my interest and aroused my desire to be helpful.

The doctor of medicine is not troubled by the troubles that trouble people. He is interested in them. Troubles of other people are about the only concern the doctor has. Ordinarily the doctor is not interested in the normal—except in keeping it normal. He is concerned with departures from normal and with the hope that he can help in bringing about restoration to normal. That is about what disease is—departure from the normal. But disease is an abstraction and most of us experience great difficulty in laying hold in any full and comprehending sense of any abstraction—even an abstraction so everywhere as life, or as death, or as birth, or love, or hope. Because we experience trouble in grasping fully the implications of the term disease, we make use of the word patient or case as a sort of synonym for the diseased condition about which we are so keenly concerned. But regardless of what the term disease may mean most of us look upon the cause of it as lying within the domain of the physical. We think disease is the manifestation of undesirable changes taking place in some part of the tissue of which we are made up. Disease is the call for help from matter that is being attacked by Death. The scrimmage between Death and Matter is Disease; the final surrender of the cells of the body is death. Not quite all diseases, however, originate in matter-changes. Some mental disorders arise apparently in the immaterial domain entirely. They are of mental and not of physical origin. And for that reason, perhaps, not many medical men are keenly concerned about mental abnormalities. They do not like to deal with a medical problem so disembodied and detached as a mind-

problem.

That is another evidence, of course, that we are all materialistic to the very bone. We can scarcely conceive of an abstraction not embodied in some object. A good deal of proof of such dogmatic assertion is afforded by almost every human organization. All of them make free use of symbols and paraphernalia. We are invited to attend to the embodying object even though we may not be willing or able to grasp the idea itself. And most of these appeals are made to vision. Perhaps that fact helps to explain the flourishing condition in which most ophthalmologists now live. People are having to make such increasing use of their eyes that they are obliged also to make use of those doctors who attend to eye defects and other eye troubles. We use the eyes more satisfactorily and more easily than any other sense organs. The eyes gather in information from the farthest reaches of the universe; the field of activity in which the other special senses range is rather circumscribed. Smells or sounds that please or plague us are of neighborhood origin. And taste is an intra-buccal affair. Touch? what intimacy is implied in being touched—whether the object touched be that lovely school-girl complexion or simply one's purse! Information brought into the mind by the eyes is more easily and more nearly automatically interpreted than that carried by any of the other senses. The great popularity of the movies is made possible by this physiologic and psychologic fact. Hearing successfully calls for effort and the art of hearing must be cultivated. The spoken drama is having great difficulty in even existing in competition with the visual drama. Auditoriums are empty; the theatres are bursting.

The attraction of the so-called clinic has the same basis. The term clinic illustrates, too, the ease and completeness with which a word may lose its original and inherent meaning. There is scarcely a suggestion of a bed in the modern conception of the word clinic.



The situation implied by the term clinic could be more properly expressed by the term medical theatre. The use of the term clinic implies the circumstances in which one can see individuals who have embodied in them some disordered condition. But not much first-hand knowledge of disease is acquired by any doctor who visits a clinic. The visitor cannot as a rule get near enough to the patient to enable him actually to learn directly through his own senses. But the patient

serves the purpose of focusing attention. A lecture on ainhum would probably be dry and uninteresting, but a skin clinic affording a patient illustrating that rare condition would attract many doctors.

The doctors in Greensboro—and there are lots of them there, good ones, too—will furnish us material for lots of clinics at the next meeting of the Tri-State if we ask them to do it. What think you of devoting half of each day to clinics? Tell me—please.



## PRESIDENT'S PAGE\*

Medical Society of the State of North Carolina

*Thurman D. Kitchin*

It is popular at the present moment to consider it a waste of time for a young man to obtain an education in the liberal arts before beginning his medical course. Such a view as this threatens both the culture and the usefulness of the future doctor.

Assuming that the physician follows a profession and not a mere trade, and remembering that a profession implies social rather than material contacts, we cannot afford to overlook the social obligation and opportunity. Any plan of medical education must take account of this relation to public welfare in general.

The purpose of the pre-professional course is not only to prepare students for the study of the profession of their choice but to enlarge their perspective in the field of general knowledge. If the course fulfills its purpose, it must prepare students to become leaders in their community. To achieve this distinction they must be educated in the broadest sense of the word because no problem in law, medicine, or the ministry can be judged to the best advantage except by the use of a wide perspective.

The support of the professional schools by the public, whether through taxes or through general contributions, can be defended only on the ground that they contribute peculiarly to the general betterment of the community. If they do nothing but fit an individual for a job, they are not to be differentiated from trade schools.

This contribution must be effected chiefly through the students they train—the doctors, lawyers, and preachers they turn out. These, through their superior knowledge and skill, raise the community's level in matters of law, health and morality. Actual experience

of these schools shows that their output is professionally stronger in proportion as the period of pre-professional training is longer.

But these men, by virtue of their professional success, attain prominence in their communities, and so have thrust upon them social responsibilities in addition to professional responsibilities. Their neighbors look to them for leadership; they must have opinions, and know how to give them effect. But nothing in their professional training fits them for this responsibility, and nothing in the early years of their professional practice. Later, they have passed the plastic stage. The strategic period, then, in which they may acquire social information and the social point of view, is the pre-professional period of preparation. The school that neglects this falls short of its duty to those who support it, and it dooms its professionally successful men to the embarrassment of conscious ignorance or to ridicule of which they are unconscious.

The minimum pre-medical course as now prescribed is loaded down with the sciences. The majority of the hours is specifically prescribed. This large proportion of science, as compared with courses in the liberal arts, is apt to result in the selection of students interested in science rather than those interested in the humanities and in mankind.

It is doubtful if in the equipment of a practitioner a knowledge of science is of much more real value than a knowledge of the way in which mankind has behaved in the past and is behaving at the present time. Broadly speaking, the problems of medicine are as likely to require sound judgments based upon a knowledge of history, sociology, philosophy, and psychology, as on the facts of science.

The amount of time now spent on sciences is not excessive; in fact, most teachers complain that the medical student is not well

\*Remarks before the Faculty Club of Wake Forest College, March 16, 1928.

prepared in the fundamental sciences. Manifestly, if change is to be made in the pre-professional course it must be in the direction of increasing rather than in decreasing the cultural content.

Much is said about the prolonged period of the pre-professional and professional training. The fact is, the increased length of the period of study has not kept pace with the amount of knowledge that has accumulated and the breadth of judgment which the community has a right to expect of those who hold themselves out as professional counselors. Looked at from the point of view of preparation for a job the time is long, but from the point of view of what the public is entitled to, it is not long. In short, the period is not long enough for the development of mature judgment. This judgment must be based on the knowledge of the forces which govern human behavior, as well as on the technical training of the professional schools.

My belief is that the pre-professional training should be concerned not so much with the elementary stages of actual professional work, as with broader general education.

If we agree that a physician should have a large experience in general medicine before he specializes, shall we not similarly agree that a man should have a broad intellectual experience before he concentrates upon definite professional endeavor?

A liberal education is a key to the accumulated knowledge of all times. Shall a professional man be deprived of this knowledge—its use and beauty—throughout life? Must his mental horizon be so limited and must he be denied this advantage and satisfaction for all his life, in order to "get at" his profession a few years sooner?

The college period is the formative period of a man's life and if he passes this period without a liberal education the chances are that he will never get such an education. By the time he has established his reputation and is financially able to make up the lack of early training he has probably become enslaved by the routine of his profession.

Furthermore, the course in a college of liberal arts affords a crucial test of a student's interest in the profession which he

wishes to enter. It protects him against the consequences of premature estimates of his ability, and opens up new opportunities and alternative routes, if his early professional inclinations are not confirmed. It is a valuable elimination contest before the student has gone too far to alter his plans without confusion or embarrassment.

A broad and refining education, in the atmosphere and environment of a college of liberal arts, is a fundamental need for those who are to devote their lives to the professions of greatest service to humanity and who wish to be useful beyond the responsibilities of the technician. Leadership in the profession and in the opportunities of social endeavor and influence is rooted in the soil of a cultural education.

Only individuals with exceptional capacity for growth and self-instruction rise above the plane of the artisan if they have not been trained to use their minds and have not formed intellectual habits and developed their mental capacities before entering the professional school.

The mental discipline of cultural study, especially the study of the classics, fortifies the mind and spirit against the relatively narrowing influences of professional training and yet equips and stimulates the mind, rendering it all the more fit to cope with the exactions of professional life.

After all, in planning the satisfying equipment for the doctor's life, we are treating human personality, the most delicate as well as finest of all materials. No one can here afford to be arbitrary in method or dogmatic in statement. It is always possible for seekers to arrive at truth by divers roads. But the central truth in this case, it seems, is this: that for the enrichment of his own life and for the potency of his ministry to public welfare, a doctor should receive in college years the most liberal and most capacious training of mind and spirit.

#### A CHESTERFIELD IF NOT AN ARTIST

Minister Waiting in Sitting Room, to Little Boy Working Away on a Pad—"Are you taking up drawing at school, my little man?" The answer—"Yes, sir, an' I jus' drew your pichur, an' it don't look much like you. Do you mind if I put a tail on it an' call it a dog?"—Lincoln County News.

**OFFICERS**

**Medical Society of the State of  
North Carolina  
1928-1929**

*President*

Dr. Thurman D. Kitchin ..... Wake Forest

*First Vice-President*

\*Dr. W. L. Dunn ..... Asheville

*Second Vice-President*

Dr. D. T. Tayloe, jr. .... Washington

*Third Vice-President*

Dr. W. D. James ..... Hamlet

*Secretary-Treasurer*

Dr. L. B. McBrayer ..... Southern Pines

**COUNCILORS***First District*

Dr. H. D. Walker ..... Elizabeth City

*Second District*

Dr. Grady G. Dixon ..... Ayden

*Third District*

Dr. J. B. Cranmer ..... Wilmington

*Fourth District*

Dr. W. H. Smith ..... Goldsboro

*Fifth District*

Dr. E. A. Livingston ..... Gibson

*Sixth District*

Dr. V. M. Hicks ..... Raleigh

*Seventh District*

Dr. T. C. Bost ..... Charlotte

*Eighth District*

Dr. R. B. Davis ..... Greensboro

*Ninth District*

Dr. M. R. Adams ..... Statesville

*Tenth District*

Dr. J. F. Abel ..... Waynesville

*Chairman Committee on Arrangements*

Dr. C. A. Julian ..... Greensboro

\*Deceased

**OFFICERS**

**Tri-State Medical Association of  
the Carolinas and Virginia  
1928-1929**

*President*—Dr. J. K. Hall ..... Richmond, Va.

*Vice-Presidents:*

Dr. Oren Moore ..... Charlotte, N. C.

Dr. R. Finley Gayle, jr. .... Richmond, Va.

Dr. DeWitt Kluttz ..... Greenville, S. C.

*Secretary-Treasurer:*

Dr. J. M. Northington ..... Charlotte, N. C.

**EXECUTIVE COUNCIL****ONE YEAR TERM**

Dr. Warren T. Vaughan ..... Richmond, Va.

Dr. M. H. Wyman ..... Columbia, S. C.

Dr. L. G. Beall ..... Black Mountain, N. C.

**TWO YEAR TERM**

Dr. E. S. Boice ..... Rocky Mount, N. C.

Dr. F. B. Johnson ..... Charleston, S. C.

Dr. R. L. Payne ..... Norfolk, Va.

**THREE YEAR TERM**

Dr. J. Bolling Jones ..... Petersburg, Va.

Dr. D. A. Garrison ..... Gastonia, N. C.

Dr. W. R. Wallace ..... Chester, S. C.



We do not undertake to say that all these arguments are valid; only that the opinions they represent are widely held, and by intelligent persons vitally concerned that children shall be educated and that they shall remain healthy. We are confident that we can outline a feasible plan by which both the school hours and the hours of play in the open air can be lengthened, interest *to know* greatly stimulated, school work made a pleasure instead of a burden—with an incal-

culable gain in the laying of a solid foundation for that broad education which multiplies capacity for happiness and usefulness.

No great discovery has been made. Nothing complicated is suggested. No legerdemain is contemplated, no special foods or exercises; no whipping up or reining in of an endocrine! The simple suggestion is that, after the morning schooling indoors, children and teacher spend from one to three of the afternoon hours in the parks, fields and woods learning from the original source the great basic facts and truths of nature; getting some grasp of the meaning of life, some insight of man's relationship to the earth and all that in it is.

Eagerness to know about things is a ruling passion in the average child. He is not satisfied until he learns *why* such or such a thing is so. And to receive pleasing instruction pleasantly is but play.

Specific matters ready at hand to be so taught are, literally, innumerable. Certainly they include identification of all the local trees, flowers and other plants; of birds, by their plumage, songs, nests and eggs; of the tracks of wild and domestic animals. (An illustration in a local paper ten days ago showed a blacksmith nailing a horse-shoe on a mule.) The feeding habits of birds, fishes, snakes and toads, besides being immensely entertaining to children, have important bearings on such practical matters as the preservation of field crops and trees from insect pests, and of human beings from the bites of gnats, flies and mosquitoes and from infection with malaria and other diseases. Elementary instruction in the different soils and rocks, the chemistry of natural and artificial fertilizers, and the physics of springs and artesian wells would enlarge their understandings and give them an intelligent interest in the earth and the way in which it gives us food and drink.

Clouds, winds and rainbows would offer themselves as subjects for illustrated discourses which would find every child's mind alert, keen and receptive. Explanations of why the smoke from the wet end of a cigar is white and that from the dry end blue, of why colorless gasoline on a wet street shows beautiful colors, and even of "how the rabbit wobbles his nose" would entertain, instruct

and edify. Few bits of information have a more wholesome effect on the life of a young child than bits culled from legendary lore. The sight of an aspen tree would suggest the simile, "trembling like aspen," and the legend that it trembles constantly from a curse laid upon it because of the true cross having been made from the wood of an aspen; and it would afford an opportunity for showing that the leaves of this tree are seen to be in motion when other leaves appear still because the strong contrast in color between the top and bottom surfaces of the leaves makes very slight motion plainly evident, and because the leaves are attached in so nearly balanced a position as to be disturbed by a breeze barely perceptible otherwise. There would be given; acquaintance with a beautiful tree, an interesting legend based on superstition, a rational explanation with demonstration, and a beginning of the habit of finding rational explanations for the so-called supernatural. The early hours of the night could be well used in lessons suited to their years on the moon and stars.

Nor would it be necessary to confine these lessons to the out-of-doors. Certainly every child starting on his schooling should be interested in books. Too often he soon comes to say "I hate books." Would this ever occur if all children were introduced to books by being shown just how books are made? In many places this could go as far back as witnessing the conversion of wood into pulp; to most children printing establishments are accessible in which they would be gladly shown the linotype machine and printing press in operation, and their intricacies explained, along with details of setting type by hand, folding, stitching and binding. Our printer says, "If folks knew how much work it takes to make books they would treat 'em kinder"; a far more famous man has said, "Books delight us when prosperity sweetly smiles; they stay to comfort us when cloudy fortune frowns." They are the chief tools with which a child is to work out his education; is it not imperative that every effort be made at the beginning of the course to have him fall in love with his tools?

Classes made up of older children could profitably be taken to plants where automobiles are made or assembled, and shown the

difference in principle between the steam- and the internal-combustion engine; to electric plants, and shown how electricity lights houses and drives street-cars and elevators.

Many parents are greatly perturbed about what they should do to supply their children with information on sex matters. Only a few days ago a very scholarly man told the editor that he did not know how to approach the discussion of the subject with his children. What could be easier than explaining that the lovely flowers and the waving corn have male and female parts which must unite if reproduction is to take place? With this line of approach the sex question at once appears as one in which instruction can be given freely, openly and unashamedly; whereas a moment ago the duty was contemplated with a feeling of distaste, if not of shame, or even panic.

Is not each one of us ignorant of many things which he would have known, had abundant opportunity been afforded for free questioning of his teacher? The plan suggested provides ample opportunity for such questioning, and every child's every question is entitled to dignified consideration and respectful answer. Of course many questions would be asked which the teacher could not answer, some even which no one could answer. The teacher would carry along a book in which to record these questions, do her best to obtain the answers from reference books or persons likely to have that special knowledge, and report on the next expedition. It is generally thought that the human mind came to its finest flower in the Golden Age of Greece. In that age teaching was by the freest questioning and answering between teacher and pupil, the pupil doing most of the questioning. By this method, too, pupils could be given a better command of language in their first three years under teachers, than is now obtained from the average course of instruction culminating in four years in college; for abundant opportunity would be afforded for correcting the *talk* of the pupils—a far more important thing than correcting so-called, *literary exercises*.

Of course, it will be argued that teachers can not be found capable of giving all this instruction. Equally of course, that is true; but any teacher of ordinary comprehension,

interested in the improvement of her own and her pupils' minds, can readily obtain the information from books on elementary botany, zoology, geology and astronomy, from State and Federal free publications and from individuals.

It seems plain that the tremendous interest shown in baseball, football, golf, motion pictures and prize fights is in the main a pseudo interest; that the greater number of devotees of these pastimes are not *attracted* to them, but are *driven* to them by a blind impulse on the part of these persons to try to get away from themselves in the intervals between periods of sleep.

A generation early given a strong taste of the beauties and wonders of nature and a love of books, encouraged to retain the child's urge to know, and given in its first few school years a sound working knowledge of its mother tongue, will be little moved by the Tunneys, the Babe Ruths, the Walter Hagens, the Ruth Elders, the Douglas Fairbanks'; or the Henry Fords. It will set great store by its John Burroughs', its Edisons, its Harry Chases, its Oslers', its Tafts, its Wilsons, its William Louis Poteats. A civilization so educated will feel no need; and have no taste, for meetings devoted to repetitions of childish simple "slogans"; conversation in terms of "service", "sell yourself", "efficiency"; mutual back-slapping and the roaring of foolish songs. "Orders" with resounding titles, grotesque uniforms, rituals made up of platitudes, and initiations in which shocking with electric charges and ducking into icy water are most popular features will languish for lack of recruiting material. Motion picture shows—certainly such as we have now, and of which William Allen White asks, "Are they a mess or a menace?"—will find little favor. There will be a slowing up in the mad rush to get nowhere.

Such a civilization will buy many *Harper's*, few *American Magazines*, and no *True Confessions*.

Those called educated will again be conversant with The King James Version, Homer, Plato, Shakespeare, Hugo, Thackeray, Dickens, Keats and Poe; and, for the first time, will have so intelligent a comprehension of natural history as to make impossible the

entertainment of superstitions — religious, medical or ku klux.

Most important of all, the individual will be his own necessity—keeping his friends as

luxuries; for he will never lack something to think about, and he will always have the equipment for thinking. Having content, with intelligence, he will be at home with himself.

### MY VIEWS IN A NUTSHELL

By Joseph A. White, M.D.

*Editor's Note.* Dr. White's accurate powers of observation and reasoning, applied throughout a long and distinguished career, eminently qualify him for informing us on any aspect of the practice of medicine. It will be recalled that Dr. White was one of the three judges to decide on the degrees of excellence of the essays submitted on "How the Family Doctor Can Best Increase His Usefulness and His Income." At the conclusion of this labor, he was moved to lay down these principles.

*Must understand  
the use of  
this equipment*

*Must be  
a student*

*Good mixer*

*Attend to  
his business*

*Be a gentleman*

*But not ride into  
practice on his  
religion*

*Know when  
he needs help*

*Recognizes  
his limitations*

1. He must always keep a decent appearance.
2. He must have a decent office fit to receive ladies in.
3. The office should be equipped with all necessary apparatus for diagnostic purposes and for all the ordinary run of laboratory work.
4. He should keep strict records of every case, as these records are invaluable for comparison with similar cases and from an educational point of view.
5. Keep up with advances in medicine by taking one or more practical medical journals and have up-to-date text-books.
6. He should mix with his fellow practitioners locally and in County, District and State Society meetings and thus profit by the experience of others.
7. He should keep his office engagements promptly and be assiduous in his attentions to his patients at their homes.
8. He should be polite and courteous to all who call on him for service, rich or poor, and manifest an interest in them and their ailments even if the latter are mostly imaginary, as they often are.
9. He should interest himself in the community life of his locality, especially in matters regarding health and prevention of disease.
10. He should try to know the people about him and let them have a chance to know him. If he knows his business they will find it out and give him enough to do.
11. When confronted with a difficult diagnosis or unusual case he should at once demand a consultation with another physician in whose judgment and knowledge he has confidence—either in his own county or neighboring town. This will only increase the confidence of his patients in him.
12. Special cases outside his regular work should be referred promptly to some one skilled in that line and not wait until the trouble is far advanced—a delay sometimes changes a curable into an incurable case.



13. Some time every year he should find time and means to go away for a while (say, two weeks) and visit some clinic that will help in increasing his knowledge along the lines he needs most.
14. Lastly and most important. He should remember that the practice of medicine is a business as well as a profession, and that as the laborer is worthy of his hire he should send out his bills monthly and try to collect them, for a small bill is easier to collect than a big one. Letting bills run only loses the patient and the money also.

*Be a business  
man, which  
few doctors are*

*Corollary*—It would not hurt any doctor to take a business course, as most doctors are poor business men—such a course might help him to the desired end of increasing his income or at least to hold on to what he has.

*Supplementary Remarks of the Editor concluding the Discussion of the Essays*

It seems fitting that, in the issue which concludes the publication of the essays submitted in our prize contest, there should appear an epitome of the views of one so well qualified as Doctor White. It is a striking fact that this is, broadly speaking, an epitome of the expressions of the majority of the essayists.

It is impracticable to review each essay. Only a few salient points will be stressed.

The offering which won first prize was one of many to emphasize the desirability and procurability of office practice. Our own opinion is that, if each family doctor in the country will make *proper*—and by this we do not mean *expensive*—provision for examining and treating patients in his office, let it be known that he can do better work in his own shop, and arrange his time to attend to office work, in a very short time he will find that he is caring for from one-third to two-thirds of his practice in these favorable surroundings.

We have never thought that the word *specialist* should carry with it the idea simply of one having to do with diseases of any special organ or system of organs, of any period of life, or of diseases peculiar to one sex. The *specialist should be one specially qualified in a certain line, to whom family doctors can refer cases of special severity or complexity in that line, or who is available for consultation in such cases.*

We can not hold with the idea that the head of a household acts wisely when he calls one doctor to come out and see him when he has general symptoms, chooses another to call

on for itching eyes or sore throat, sends his wife to another when she complains of pain in her back, puts her in the hands of still another when she becomes pregnant, and has yet another ready to take charge of the new arrival before he has had his first bath.

On the contrary, we believe the wisest thing a newly married couple can do is to choose a family physician, tell him they look to him for their guidance in all health matters, that *all* decisions as to the need and choice of specialists will be left entirely to him in each individual instance. Far too little practice is done on this basis. We do not believe that there is a doctor anywhere who would not respond to such an exhibition of confidence. How different it is though when a family never has a family doctor, but calls in a general practitioner when the disorder is thought to be too trivial to bother a specialist with—and besides maybe it is thought he will not respond—and as soon as a health problem of any consequence comes up, the case is placed in the hands of this or that specialist!

This is no screed against specialists. Specialists worthy of the name would much prefer that their patients come through family doctors, for they know that only in co-operation with family doctors on terms of mutual respect and confidence can specialists do justice to their patients and themselves. Some will think of patients who have come too late to a specialist because of remaining too long in the hands of the general man. Such cases can be fairly offset by unnecessary operations which turn out poorly, and other disasters

which result from the specialist's tendency to view disease as *local* rather than *general* and his well-nigh inescapable propensity for magnifying his own field.

With proper equipment in a conveniently arranged office a family doctor should be able to intelligently and satisfactorily diagnose and treat the vast majority of his ambulatory patients, of both sexes and all ages, from dandruff to corns; and decide wisely which of the others should be treated by him in their homes or in hospitals; in which cases consultations should be had, and who should be the consultant; which patients should be referred, and to whom.

We are confident that in this direction lies the greatest good for patient, family doctor and specialist; that the hope for all is in the enlargement of the family doctor.

#### WILL To Do

The letters which follow explain themselves:

DR. CHAS. E. SMITH

My horse is old and feeble, Can't Practice at Night and I am just the same; I'll see you, Pard, in the day time, if my old Dodge aint to blame.

Ledger, N. C.,  
April 6, 1928.

Dr. Chas. O'H. Laughinghouse,  
Raleigh, N. C.

My Dear Doctor:

I thank you very much for your letter of March 27th and 28th, and am enclosing a small number of my letter-heads with pleasure. I presume you or somebody are interested in them when I tell you I am 69 years old, have been practicing medicine in these mountains since 1879 on horseback until the past few years, wearing an artificial leg all this time, have had diabetes mellitus for past three and one-half years; operated for appendicitis two years ago; do not take insulin; went under general anaesthetic for the operation; and have raised a family of eleven children, you more than likely will say the letter-heads are very appropriate. At any rate I thank you for the asking. I shall be pleased to have you drop in sometime this summer, preferably just before I start the clinic which I now think will be around July or August,

and shall expect you to give two or more lectures on Preventive Medicine while here, which will naturally aid me in having a good turnout during the clinic. As most of my people are from Missouri and have to be told once, I want them told by a man who is well versed in his profession, such a one as I know you to be.

Faternally and sincerely yours,

CHAS. E. SMITH.

Charlotte, N. C.,  
April 10, 1928.

Dr. Chas. E. Smith,  
Ledger, N. C.

Dear Dr. Smith:

Dr. Laughinghouse has kindly allowed me to see your letter to him of the 6th. Naturally I am anxious to know more about the doctor who has done so much against so many difficulties.

Please write me something about your clinic.

I shall mail you a copy of the journal for this month as soon as it is out. Of course it would be a pleasure to have you in the journal family. However, whether you come in or not, case reports or other communications from you would be welcome and gladly published.

I hope to have the privilege of knowing you well.

Cordially yours,  
JAS. M. NORTINGTON,  
Editor.

We have not received a reply to our letter, but it is not difficult to understand that Dr. Smith is a busy man who doesn't get around very often to matters of correspondence; so we do not hold it against him.

Many have noted how often it is true that those who labor under the most grievous handicaps complain least of their lot, and how often they succeed best; which leads us to say that the only handicap which may not be overcome is self-pity.

Notwithstanding one failure to establish a line of communication, we shall keep right on in the effort; for the lives of such doctors as Dr. Smith are too full of lessons valuable to us all to be permitted to go on unrecorded.

## A HIGH BLOOD PRESSURE CURE

"Disregarding Ethics"

There has just come to our desk a long circular letter bearing the signature, "Dr. J. B. Butts," setting forth claims as to his "cure" for high blood pressure, and offering, for \$5.00, to "send complete directions for making the remedy."

In the fourth of the seventeen paragraphs it is said: "Disregarding ethics, I advertised and thus secured 245 patients living in 27 states." Since ethics is, according to the *New Standard Dictionary*, "the science of the morally right," there would seem to be no occasion for going further; for who will be persuaded by one who admits that he disregards the morally right? However, there are other features of interest.

Paragraph 2 tells us, "I was born in New York 78 years ago. Owing to conditions brought about by the Civil War I was obliged to go to work when I was 11 years old." Seventy-eight years ago was 1850; eleven years later was 1861; the first gun was fired at Fort Sumter on April 11, 1861. Evidently, "conditions brought about by the civil war," moved more rapidly at the North than at the South. Besides, we had always understood that neither the State of New York nor the Federal Government was either unable or unwilling to care for those brought to need by "conditions brought about by the civil war." It seems a pity that neither President Davis nor General Beauregard knew the extent of the havoc wrought by the Confederate victory at Bull Run. Ah! what a different tale there would have been to tell! But the subject is too sad a one to be pursued further by one who has "lived" on this side of "the line," as Dr. Cy Thompson would say, "for 300 years."

The circular is stamped "The Very Latest on High Blood Pressure;" an enclosed leaflet has the caption, "Still Later"! Now we can understand the feature of naval nomenclature which gives us "dreadnoughts" and "super-dreadnoughts."

Don't let Dr. Butts make doctors and patients *butts* of his story.

It is plain that he goes right along "disregarding ethics."

## DR. DUNN

Dr. William Leroy Dunn, prominent Asheville physician, died in Washington Thursday morning, May 24, 1928, at Mount Alto Veterans Bureau Hospital. Funeral services were held at the First Presbyterian church in Asheville on May 26th, he being given a military funeral in accordance with his own personal wishes.

Dr. Dunn was a member of the American Medical Association, the Medical Society of North Carolina,—of which he was a former vice-president—the Southern Medical Association, the state, national and international tuberculosis associations, and a member of the executive committee of the National Tuberculosis Association.

During the World War, he held the commission of Colonel in the Italian Army in appreciation of services he rendered as chief of the medical service at Base Hospital 102 in Italy. For eight months in Italy, he acted as military ambassador between American and Italian forces. He was also a Colonel in the United States Reserve Corps.

Dr. Dunn was born at Fairfield, Ohio, in 1871, coming to Asheville in 1894 where he was associated with Drs. Von Ruck and Ambler in the old Winyah Sanitarium. He received his medical degree at Ann Arbor when only 20 years of age and was compelled to wait a year before he could practice medicine. In 1916 his alma mater awarded him the degree of master of arts in recognition of his work in the field of tuberculosis.

He was married in 1900 to Miss Myrtle Mansfield of Kentucky; two sons were born of this union, William LeRoy, jr., and Thomas Mansfield, both of whom were with him at the time of his death. In 1922 Dr. Dunn and his first wife were divorced and he later married Miss Marion Littleford. Two grandchildren, Marjorie Ann and Barbara Jane, also survive him.

In 1894 when Doctor Dunn accepted the position at the old Winyah Sanitarium, Dr. Klebs, an outstanding authority and one of the two men who are accredited with discovering the diphtheria bacillus, had charge of the Winyah laboratory. For several years Dr. Dunn was associated with Dr. Klebs in this laboratory work. He was particularly interested in the chemistry of tuberculosis

and this won for him national recognition. It was during his association with the Winyah Sanitarium that the discovery of the watery extracts of the tuberculosis bacillus was made.

He studied for several years in important medical centers of Europe, including Berlin, Leipzig, and Paris.

Dr. Dunn died of cancer of the lung, having made the diagnosis from x-ray which he took of himself.

Dr. Dunn served as a member of the first Asheville board of health and continued in that body for a number of years. The city did not have adequate laboratory facilities; but Dr. Dunn at that time had the most thoroughly equipped laboratory in the western part of North Carolina and this laboratory was always open to the city board of health and to any physician of the vicinity. Working with the committee from the Buncombe County Medical Society, he was largely instrumental in bringing about the establishment of meat and milk inspection in Asheville and was also a member of the committee from the Buncombe County Medical Society when the pioneer work on the investigation and eradication of flies was made. The work as carried out by his committee has been recognized throughout the civilized world and the legislation which was adopted in Asheville at that time is now standard legislation everywhere. Dr. Dunn served on the staff of many hospitals in his lifetime; was at one time dean of the Mission Hospital in Asheville and at his death was a member of the staff at Biltmore Hospital.

He was a thirty-second degree Mason and a Knight of Pythias, as well as a member of Phi Delta Theta social fraternity. Was also a member of Pen and Plate Club of Asheville and of the Asheville and Biltmore Forest Country Clubs.

Dr. Dunn was a devoted friend to the disabled veterans and each year when various bills came before Congress, he appeared at the committee meetings and gave testimony. His work of standardizing the treatment of tuberculosis was recognized by the government authorities. He labored diligently for the construction of permanent units at Oteen

Hospital and it was said that it was largely through his efforts that Congress appropriated money for this work, a part of which has been completed and part of which is now in course of construction.

Dr. Dunn was always interested in any movement which would benefit Asheville, Buncombe, the State of North Carolina, or the country at large. He had but few hobbies outside of his medical profession but devoted himself closely to his work. He enjoyed the confidence and esteem of everyone in Asheville. His reputation in tuberculosis work was not only statewide but was recognized internationally. He was one of the outstanding members in his county and state societies and the resolutions which they have adopted since his passing indicate that they recognized him as having been one of the greatest, if not the greatest, member of the society. Dr. Dunn was a man of loyal character and one of high ideals and sterling worth. He was ready at all times to go out of his way to give encouragement and assistance to the younger men of his profession. Dr. Dunn was one of the most willing and trusted advisors on state and county health problems and was recognized as such not only locally but nationally. At the time of his death, he was president of the American Climatological Society, the most exclusive medical society of the United States.

—C. P. Ambler.

---

Graves' disease is a chronic, rarely acute, neuro-endocrine dysfunction characterized by an increased basal metabolism, loss in weight, tremor, emotionalism, persistent afebrile heart hurry, weakness, dermatographia, and usually (not constantly) by hyperplasia of the thyroid gland and by exophthalmos.

The presence of neither exophthalmos nor goiter is imperative for the recognition of Graves' disease, hence the synonym "exophthalmic goiter" is confusing in the diagnosis of this affection.

The adoption of the above definition of Graves' disease is urged with the hope that it would assist in the elucidation of the nature of this perplexing clinical entity.

Israel Bram,

ENDOCRINOLOGY, Vol. XII, No. 2, 1928.



AN INSPIRED WRITER in the *Shrine Magazine* for May gives a lot of nonsense about heart disease, and all in the cock-sure manner affected by laymen in general when they talk about medical matters. A sample of his giddy style: "Out came the molar, and with it a pus sac as big as a walnut!" Another: "Castor oil, administered in liberal doses, is the elixir of life which is keeping tens of thousands of heart cases on their feet, contented and happy, and which, properly used, can keep anybody from getting heart disease, provided he takes a few other necessary precautions."

Perhaps the juiciest is:

"Does your heart beat faster—when you are walking up an incline? When you are climbing stairs? When you play fast golf? When you are exercising mildly? If so, you had better do something about it."

If your heart *does not* beat faster under those conditions something will have to be done, but you will not be able to do it; your friends will have to take you out and bury you.

THE SPRING CROP OF BABY CLINICS are nothing short of live-stock shows for fond mothers who desire to have their children rated as to points, not for health's sake but largely out of curiosity or neighborhood rivalry, as also the incentive of getting something for nothing. . . . . Without medical men the health clinics would fail, but as conducted at the present time the health clinics are largely if not wholly dominated and controlled by lay interests, with the medical profession as "the goat." Medical men should be something more than the spineless dupes of lay organizations that start a lot of activities without rhyme or reason, and in the matter of rendering efficient and intelligent services to the sick and afflicted among the indigent and poor the medical profession should have a voice in how, when and where such service is to be rendered. There is altogether too great a tendency on the *part of medical men to let someone else boss them.*

—*Jour. Indiana State Med. Assn.*

A CORRESPONDENT in the *American Journal of Ophthalmology* for March says that he

thinks that the term "eye surgeon" should be given to those physicians who have been trained to treat diseases of the eye, do surgery of the eye, and prescribe glasses. In other words, the term is to take the place of ophthalmologist, which is cumbersome and requires an explanation to the ordinary layman, to say nothing of being confused with optometrist, just as oculist is confused in the minds of the public with optician. He believes it is logical to speak of "eye surgeons," and that the term would give ophthalmologists a standing in the minds of the public as being engaged in surgical as well as medical work. The suggestion is worthy of serious consideration.

—*Jour. Indiana State Med. Assn.*

TOM WOLFE, Albemarle, sends us a copy of what we take to be number 1, volume 1, of *She Ain't Got No Name*. We've seen lots worse. On a certain day several years ago Tom told us in answer to "Are you still selling Dodge cars?", "Well, I've still got the agency; but, as old Sam Pepys would say, 'Customers are scarce, and exceeding wary.' " Since that day we have *known* he had literary ability and *thought* he had too much sense to spend money airing it.

#### INCREASE IN NARCOTIC TAX REJECTED

The proposal in the pending revenue reduction bill to increase the tax on physicians, dentists and veterinarians under the Harrison Narcotic Act from \$1 to \$3 was overwhelmingly rejected in the Senate, May 15. The debate against the amendment was led by Senator Copeland of New York, a physician, who stated that every doctor is aroused over this class legislation. Others opposing the amendment were Senators McKellar of Tennessee and Caraway of Arkansas, who urged that even the \$1 narcotic tax be eliminated.—*Jour. A. M. A.*, May 19, 1928.

#### PERFECT CONTENTMENT

Uncle Joe Williams was a rural philosopher of the corn-fed variety in Indiana. One day he astounded the neighborhood by posting the following notice on a piece of land which he owned not far from the bank of Little River:

"This hear 40 akers will bee giv'n to enny man what is purfleckly contentid."

As might be supposed, there were numerous applicants for the land. The following is a fair sample of the conversation which ensued:

"Air you sure you air purfleckly contented now?"

"Yes, I am certain of it."

"Then what in Sam Hill do you want of that forty acres?"—C. Y.

## DEPARTMENTS

### HUMAN BEHAVIOR

JAMES K. HALL, *M. D.*, *Editor*  
Richmond

#### WHAT IS THE MEANING OF SUICIDE?

Not long ago a citizen of North Carolina, charged with the brutal murder of a woman, attempted to kill himself in jail while on trial for his life. He had been successful in business, and his acquaintances spoke well of his character. He denied all knowledge of the crime. But the prosecution was making a determined effort to place him in the electric chair. Two of the leading newspapers in North Carolina proclaimed his attempt at suicide as his own bloody confession that he had murdered the woman. What of such an interpretation of an attempt at self-destruction?

What does suicide mean? The word etymologically and actually means to kill one's self. What does the act mean? Practically it must be interpreted as the effort of a human being in distress to lessen his suffering. All living carries with it suffering of some kind in some degree. We continue to make effort in the hope that our future may be more satisfactory than our present state. Self-denial is endured for the moment in the hope that days of fullness may come. Martyrdom is suffered in the belief that the future will make restitution. All human effort is a manifestation of the hope that the days that are to be will be better than those that are. The intolerable must eventually become more tolerable. Such reasoning must motivate practically all conduct. Reasonable attempts to avoid suffering and to mitigate pain are normal. But pain and suffering and anguish and apprehension are subjective states; they can be experienced by the individual; they can not be seen by another. Conduct is observable; the reasons for it can only be surmised. Motives may be surmised; they can not be known.

Few human beings constantly exhibit sound judgment. For that reason much of so-called normal behavior is irrational. The

reason for the conduct is unsound. Consequently much individual behavior is actually hurtful to one's self. There is often personal retrogression instead of personal progress. Most human opinions have probably been wrong; had it been otherwise the majority of mankind would not at this time be living in a benighted condition. The best medical opinions, many of them, perhaps most of them, a few centuries ago were wrong. Many of those of today are unsound. But we are struggling to rationalize our medical philosophy. As much can be said of legal opinions, of ethical ideas, of religious conceptions. We are looking for lighted pathways in a dark world.

The suicide is generally propelled perhaps by an erroneous idea. He is attempting to do the right thing but in the wrong way. He is in distress and he is trying to lessen his distress. Death, with all its uncertainties, looms before him as less painful than his present state. And who can know for a certainty that his future will be worse than his present? Who can know just what his suffering in life is? And who can know just what his future suffering will be? The exchange of life for death—will it be a sorry deal for him? Who knows? Who knows?

Does the sane person commit suicide? At the very moment the candle is blown out, who is there, within the calvarium, to say whether the thinking be rational or irrational, reasonable or unreasonable, sound or unsound? We judge the individual as we think him to be, not perhaps as he is. Just as one may formulate a delusional idea about another, so may one also develop a delusional attitude towards one's own self. One may easily develop the delusion that one has always been a great sinner, a hypocrite, a persistent liar, unworthy of affection, a contaminator of mankind, fit only for Hell and worthy of association with the lost and the damned. Such delusions are not at all uncommon—such irrational thinking often drives the individual by his own hand into the grave. In such circumstances suicide is a means of es-

cape. And the apprehension also that the future is to be even worse than the present or the past is not infrequently an impelling force that hurls one out of life. Occasionally I speak to a cheerful, efficient, successful middle-aged man who made an attempt a few years ago to take his own life immediately after he had been told by a medical man that he had pulmonary tuberculosis. The fear that he would become a helpless consumptive was too much for him. Death itself was less objectionable. Was he tuberculous? Did he recover? I know not. But I do know that he is apparently in robust physical health, and that he is apparently living comfortably with his own mind—and that is the main trick. And another young man repeatedly tried to blow out his own candle because he thought a few bumps here and there on his skin meant that Ethiopian blood flowed in his veins. I have heard that a Confederate officer of high rank who had battled valiantly against the Yankees for four bloody years removed his cap, mopped his brow, dismissed his escort, and walked nonchalantly and alone out towards Grant's Army. A volley from the ranks of the enemy saved him the agony of Appomattox a week later. Socrates and Brutus? Were they unreasonable? Were their consciences telling them that they were guilty of grave wrongs? Judas Iscariot is thought to have been worthy of self-invited death, but we are without data about his mental condition. David was often blue and despondent and overwhelmed by a feeling of unworthiness. Upon one occasion at least he dramatized so successfully an attack of mania as to cause his pursuers to believe that he was actually insane. And Saul entertained periodically definite ideas that David was persecuting him.

The impulse to bring one's own life to a close is often powerful, but of short duration. I know many individuals now happy and efficient who were once actually suicidal. The reasons for suicide are individual. The attempt is not a manifestation of a desire to be dead, but the act represents rather the person's final desperate effort to escape from suffering become intolerable. Mere willingness to die is unusual. The desire to die is abnormal. The attempt to bring about one's own death is contrary to the most primitive

instincts. Many lives occupied in doing only good deeds have terminated tragically in suicide. Self-destruction does not often mean the confession of guilt. It usually means that the mind has become so befogged that sound judgment is no longer possible. [Who knows but that it is the resultant of the exercise of the soundest kind of judgment as to what is best for that individual?—J. M. N.]

## DENTISTRY

W. M. ROBEY, D.D.S., *Editor*  
Charlotte, N. C.

### SOME OF THE RESPONSIBILITIES OF DENTISTRY AS A FACTOR IN HEALTH SERVICE

(Presented to the Old North State Dental Society, April 10th)

In choosing such a subject naturally the first thought is the responsibility for the care and restoration of the teeth as organs of mastication and preservers of facial contour. As a health measure, this responsibility is without argument and the discussion without limit. We might say that was the primary function of dentistry. But modern scientific advancement is increasing the range of responsibility until the mere examination of a mouth with mirror and explorer, the relief of tooth-ache, an indifferent filling, so-called cleaning the teeth (usually the surfaces that are visible), ill-fitting crowns, bridges and plates, are not sufficient to be called a health service.

The systemic effects of focal infection are now generally recognized, not alone from the teeth, but from numerous possible sources in various parts of the body. But to the dentist who is familiar with oral conditions, there are in the mouth thirty-two possible sources of infection both periapically and periodontally. We might eliminate these various possible sources by extraction of all the teeth but we might prevent much pain and suffering by cutting the patient's head off to begin with. Too much of this method of treatment has been practiced in recent years, when we should have been eliminating the pathology instead of using shot-gun methods and making plates. Enough of that.

My concern at present is the fear that we shall not only abandon the shot-gun methods

but that we shall again become too conservative as to our treatment of infections, in other words, lulled to sleep by our arguments for the preservation of devitalized teeth.

Dentistry is no longer an exclusive little profession. Every act is a health service, part and parcel of the great profession of medicine, whether so recognized by the patient or not.

It may seem a far cry from an acute neuritis in the arm to a few harmless-appearing old roots of teeth in the patient's mouth. But in just such a case in which three-fourths grain of morphine failed to give relief, the patient showed relief in less than twenty-four hours after their removal, and had a restful sleep. The temperature rose to 101 or 102 but that was of minor importance after four weeks' suffering. In another case of sudden loss of sight with no other apparent cause than a very filthy mouth, incipient pyorrhea, normal vision was reported in ten days after a thorough cleansing and treatment. An acute neuritis at the wrist was almost immediately relieved by the extraction of a devitalized lower first molar that showed both clinically and by the x-ray no symptom of pathology. No other source of the trouble appeared at the time. Stubborn cases of iritis are often accounted for by foci of infection about the teeth. Arthritic conditions, rheumatism, enlarged and broken down joints, especially of the shoulder and fingers, are recognized as the results of focal infection, often from broken down and infected teeth, roots that are so imbedded that they cannot be recognized except by x-ray.

In citing numerous cases in which relief was experienced by the removal of infections in the mouth, we grant that some may have been the result of coincidence. But coincidence does not account for the result at all times. Take the case of a patient with an erythema of the skin on the face and neck. He was treated locally for months. It appeared to be the result of a plant poison. His wife moved all her flowers out of the house. He quit feeding the cow on account of the possible poisoning from the hay. Finally referred to the dentist with an apparently perfect mouth, two abscessed molars were discovered and removed and his disease disappeared in forty-eight hours. In a year

he returned with the same complaint. A more thorough examination revealed an abscessed lateral incisor. This was extracted with the same favorable result. In a week he was back again and the dentist was about stumped. On investigation the socket of the lateral was discovered closed by the rapid healing of the gum. Drainage was established and relief obtained. This happened three or four times before complete recovery.

Acute cases are more promising of favorable results. The x-ray is essential to the discovery of many foci. In many cases the patient, instead of building an immunity, becomes sensitized to the peculiar organism and symptoms return upon the development of another focus. Don't extract teeth without reason. But don't let your patient become a cripple because you fail to recognize your profession as a health service. To act with intelligence toward cases involving other parts of the anatomy than the mouth, it is necessary for the dentist to co-operate with the physician.

---

## LABORATORIES

*For this issue, NANNIE M. SMITH, M.A.  
Charlotte, N. C.*

---

### THE CLINICAL SIGNIFICANCE OF BLOOD CALCIUM

The studies of the calcium content of the blood in disease are not as yet extensive enough to determine the exact clinical value of its estimation. It is known, however, that in certain pathological conditions there is a deviation of the calcium content of the blood from its normal level. The normal range of the calcium content of the blood serum is from 9 to 11 mg. per 100 c.c. in adults and from 10 to 12 mg. per 100 c.c. in children. It has been found that the calcium in the serum does not exist in the form of a simple solution. When serum is subjected to dialysis only about 50 to 60 per cent of its calcium content is found to be diffusible. Parallelism between changes in the protein content and the calcium content of the serum has led investigators to believe that the non-diffusible calcium of the blood is bound to the protein.

The diseases which have been most thoroughly studied in regard to the calcium of the blood are rickets, nephritis and tetany



due to parathyroid insufficiency. In rickets there is a decrease in blood calcium which may be slight or marked. Nephritis shows a moderate decrease in blood calcium. The decrease may be quite marked in cases of uremic convulsions. The calcium of the blood may be reduced to 50 per cent or more of its normal value in tetany parathyreopriva. Animal experiments have shown that the tetany which follows extirpation of the parathyroid is due to calcium deficiency. The parathyroids control the threshold for excretion of calcium in the intestines. The absence of the parathyroids causes a lowering of the threshold and calcium is removed from the blood with abnormal rapidity. In parathyroidectomized dogs the symptoms are relieved by the injection of calcium chloride which raises the calcium level of the blood, but the symptoms reappear as soon as the calcium reaches its former low level. The injected calcium is very rapidly excreted through the intestines. Only very small amounts appear in the urine.

It is recorded also that in infantile tetany there is a marked reduction of the blood calcium and that convulsions can be controlled with calcium salts. Other investigators have reported that an increased basal metabolism in thyroid disease is accompanied by a reduction of blood calcium.

In addition to these diseases the calcium content of the blood has been reported as being below normal in pellagra, osteomalacia, colitis, eclampsia, essential hypertension and in bronchial asthma during paroxysms. The number of cases reported, however, is too small to draw any definite conclusions.

---

## ORTHOPEDIC SURGERY

O. L. MILLER, M.D., *Editor*  
Gastonia, N. C.

### RICKETS: KNOCK-KNEE, BOW-LEG, STATIC FLAT-FOOT

In the January issue of the *Journal of Bone and Joint Surgery*, Moore (C. U.) makes the following observations on rickets and some of its postural sequelae.

"Skeletal signs of rickets are most evident at times of rapid growth of the bones, that is,

during the first two years of life and at puberty. These signs are craniotabes in the first six months, the rosary and Harrison's groove in the first year, genu valgum or varum in the second year, and static flat foot at puberty.

In normal legs, the epiphyseal lines of the femur and tibia at the knee are parallel and the knees and inner malleoli touch when the child stands with the feet parallel. When the knee is rachitic, the roentgenogram shows cupping or feathering of the epiphysis, thinning of the cortex, transverse lines of deposited calcium in the diaphysis, and an epiphyseal line which is not at a right angle to the shaft. When the epiphyseal line is not at a right angle to the shaft, the knee goes inward or outward when weight is borne on the leg, depending upon the direction of the slope of the line. In such cases there is also abnormal lateral mobility. This is often the first sign of a rachitic leg.

In cases of flat-foot, footprints do not always give a reliable idea of the functional condition. A simple test consists in having the child stand on the balls of the feet. If the scaphoid bone is not visible or palpable in this position but becomes prominent when the child comes down on the entire sole, functional flat-foot is present.

It is commonly thought that children "out-grow" rachitic deformities, but examination of young adults shows that this is not true. In examination of draft troops during the great war a high per cent was found to have various deformities from rickets.

There seems to be a hereditary factor in rachitis extending back sometimes three generations. In the experimental production of rachitis extending back sometimes three generations the disease by diet. In the cases of children who show rachitic signs in spite of careful diet the parents were probably rachitic.

Every effort should be made not only to maintain the child on an antirachitic diet, but also to provide heliotherapy and light clothing. More danger is associated with being over-clothed than with being under-clothed."

---

### A SURE CURE

"Doctor, my wife has lost her voice; what can I do about it?"

"Go home late some night."—*The Doctor's Leisure Hour.*

## UROLOGY

HAMILTON W. MCKAY, M.D., *Editor*  
Charlotte, N. C.

### DRAINAGE OF THE BLADDER IN BENIGN HYPERTROPHY OF THE PROSTATE GLAND

Much has been written on the two methods of continuously draining the bladder preparatory to prostatectomy. Many advocate drainage by suprapubic cystotomy as a routine procedure; others are just as sincere in their opinion that the bladder should be drained by an indwelling catheter. It seems to me we should have no set and routine way of draining the bladder preparatory to prostatectomy but that the kind of drainage should be instituted that best suits the type of prostate gland to be dealt with. Especially should the symptoms be an index, and in many cases they should give us valuable information as to the type of drainage best suited to the individual case.

The observant urologist who interests himself in a study of the clinical symptoms caused by the various types of prostatic enlargement is immediately impressed that symptoms of severe bladder tenesmus are extremely difficult to deal with in the period of preparation for operation. Therefore, it would appear to be good judgment when a patient presents himself with these symptoms to institute the kind of drainage which will put the bladder at rest and not to add a foreign body in the form of a catheter to an already intolerant bladder.

The object of this discussion is then to dwell on one of the symptoms which, I believe, clearly indicates suprapubic drainage. When a patient has severe tenesmus following intermittent catheterization during the first few days of preparation, we should at once consider putting such an irritable and unruly bladder at rest by cystotomy. I am thoroughly aware such a patient can be successfully drained by the indwelling catheter, but where this instrument is not well tolerated by the patient severe complications arise and the period of preparation for operation is unnecessarily prolonged.

The intravesical type of prostate, especially the form with pedunculated median lobe, tolerates the indwelling catheter badly and this

usually is the most difficult type of case to prepare for operation without serious complications. In the above mentioned type, hemorrhage, severe prostatic infections, and ascending infections of the kidney with or without nephritis are common. The already irritable and rebellious bladder resists the presence of the catheter and is constantly contracting in an effort to expel it. In this manner the contractile waves are kept up and the whole urinary tract is in a state of constant unrest. I can possibly illustrate, to those interested in prostatic surgery, by brief clinical summaries of two cases.

A man of sixty years old complains of frequency and burning on urination with hesitancy and extreme difficulty in starting the flow of urine. For the past five years he has had prominent urinary symptoms, notably great difficulty in emptying his bladder. The patient states that he has not been able to stand up and urinate for two years. He has to squat and strain like a woman in labor in order to start the stream of urine. He also gives this interesting statement that when he has a desire to urinate if he takes a long breath, he is able to start the flow of urine. For three weeks prior to consulting me his urinary symptoms have been acute. On examination I had no difficulty in introducing No. 14 F to 16 F soft rubber catheters. The patient had 5 ounces of residual urine. Intermittent catheterization intensified the patient's straining and all the other urinary symptoms. Within a short time he began to bleed from both bladder and kidneys, all the symptoms became intensified and the patient steadily grew worse. At the end of second week I decided to do suprapubic cystotomy and drain in an effort to put the whole urinary tract at rest. However, the patient showed no improvement and died within three days after cystotomy with hemorrhagic nephritis, which was present at the time of operation.

Autopsy specimen showed benign hypertrophy with large pedunculated median lobe, with multiple small abscesses throughout the renal parenchyma, and hemorrhagic nephritis.

The second case, that of a man, aged 61 years, who complained of frequency of urina-

tion, great difficulty in starting the stream with extreme bladder tenesmus. The interesting clinical features concerning this case are as follows:

1st—Unusual straining in an effort to start the stream to empty the bladder

2nd—Unusual amount of tenesmus and bladder spasm

3rd—Bleeding prostatic urethra and vesical neck

4th—All symptoms were intensified by introduction of a soft rubber catheter either intermittently or with its use as an indwelling drain.

Summary: In the first case had I done suprapubic cystotomy and put the patient's urinary tract completely at rest from the beginning it would have certainly have given him a better chance to come to operation.

In the second case all clinical symptoms are similar to case No. 1 and indicate intravesical hypertrophy with an irritable bladder which are indications for suprapubic drainage.

I feel that the urologist with average skill should be able to introduce an indwelling catheter in almost any type of prostatic hypertrophy where the urethra and prostate have not been traumatized. I, however, feel that because we are able to introduce a soft rubber catheter into the bladder and even if the patient will tolerate it well that it is not always the ideal type of drainage.

## RADIOLOGY

JOHN D. MACRAE, M.D., *Editor*  
Asheville, N. C.

### CANCER OF THE LUNG

In recent years all forms of cancer have increased. Naturally improved methods of study and the propaganda for early diagnosis and treatment of malignant disease have caused many cases to be recorded such as have heretofore been unrecognized. X-rays, especially, have exposed intrathoracic conditions so that the diagnosis of pulmonary neoplasm is made often enough to convince me that the disease is and has been more prevalent than has been realized.

Primary cancer of the lung constitutes one or more per cent of all malignant disease. Metastatic cancer is much more frequent. So

much so that before any operation for malignant disease in other parts of the body is undertaken radiographic study of the chest should be done in order that early metastasis may be recognized.

Not long ago it was thought that practically no cancer of the lung was primary. Certainly a most exhaustive search of all parts of the body must be made before such a diagnosis is accepted. The treatment will be determined and prognosis formed from the result of examination.

The cause of primary pulmonary cancer is chronic irritation, and tuberculosis is most frequently assigned. Trauma and anthracosis play a large part in etiology.

Carcinoma of the lung originates in the bronchial epithelium and mucous cells and in the epithelium of the alveoli. The growth is apt to be infiltrative, beginning at the hilum and accompanied by many smaller or larger metastases. Sometimes it is a well defined tumor. Extension to the pleura is the rule. Occasionally bronchial carcinoma is miliary in type and distribution. In such cases the x-ray films show a multitude of small nodules scattered through the lungs along the bronchial divisions.

Lymphosarcoma is practically never primary but originates in bronchial or mediastinal lymph nodes, growing into large smooth, more or less nodular masses about the hila. Extension into the lungs takes place along bronchial lymph channels.

Sarcoma of the lung is less frequent than carcinoma. It occurs at an earlier age, often in the upper lobes and is generally more bulky than the carcinomatous new growth. This group of neoplasms is uncertain in origin and clinical behavior.

X-rays are the most useful single agent in the diagnosis of pulmonary tumors. The history and clinical behavior of a case of suspected cancer of the lung must be co-related with film and fluoroscopic study.

Some benign tumors occur. They may be observed to remain stationary in size throughout a long series of chest films. Malignant neoplasms will often grow rapidly and x-ray films made at short intervals will show marked extension.

Symptoms vary greatly with the type and location of the tumor. Supra-clavicular

glands become enlarged. One of these affected lymph nodes may be dissected out and examined microscopically to determine the type of cell growth.

Pleural effusion uniformly bloody is strongly suggestive of cancer. The physical examination will reveal dullness on percussion in accord with the size and location of the new growth. Auscultation fails to discover rales. Atelectasis develops as a result of bronchial obstruction and the area of involvement can be outlined but it cannot be differentiated from the new growth itself. Absence of breath sounds is noted.

Our most accurate knowledge of the size, location and character of intra-thoracic neoplasms comes from the x-ray examination. Artificial pneumothorax is a useful aid in radiography. Bronchoscopy is also very useful.

Subjective symptoms may be absent until after loss of weight and cachectic appearance takes place. I have seen a very large new growth in the base of the lung causing no inconvenience and I have seen very small new growths cause so much bronchial irritation that cough was almost incessant.

The patient complains of pain or indefinite feelings of constriction, generally referred to the hilum region, or when metastasis to pleura or ribs takes place pain may become unbearable. Dyspnea is in proportion with lung involvement and an irritating non-productive cough is often present. Fever is present when the tumor creates an inflammatory reaction. It is not a constant symptom. Loss of weight and cachexia may not be the earliest signs of cancer but they develop sooner or later.

I have been asked if I would subject myself to x-ray treatment if I had cancer of the lung. My answer is prompt and without qualification: I would. I have seen wonderful relief in lung cancer after mild x-ray exposure. A few cases in my practice have remained symptomless, carrying on their regular work for years, after thorough x-ray treatment.

By far the greater number are rapidly fatal.

## INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., *Editor*  
Asheville, N. C.

### APPENDICITIS

Appendicitis is usually considered a surgical disease and one may wonder why mention is made of it in the Department of Medicine. When a paper is published with the title "Appendicitis" one's first reaction is that it is a paper on a subject concerning which the last word has been said but when the author is seen to be Dr. John B. Deaver, of Philadelphia, one realizes that he is one of the few men in this country fitted and qualified to write a paper original in thought and development on this very topic of "Appendicitis." Here are some of the questions that Dr. Deaver asks and which he also answers:

1. What are the different locations of the appendix?
2. Is it possible to denote the position of the appendix when acutely inflamed?
3. What bearing has the location of the inflamed appendix on the method of attack?
4. What are the conditions that make the diagnosis of acute appendicitis doubtful at times?
5. Is the diagnosis always possible?
6. What conditions does acute appendix sometimes simulate?
7. What are the most important physical signs in the diagnosis of acute appendicitis?
8. Has the expression left-sided appendicitis any significance?
9. How much importance can be attached to the blood picture in acute appendicitis?

There are many other questions that he asks but the majority of them deal particularly with the surgical aspect and are here omitted. The excuse for recommending this paper in this particular department lies in the fact that the majority of cases of appendicitis are first seen and overlooked, or else first seen and diagnosed, by medical men. The surgeon is not usually sent for by the family, he is on the contrary sent for by the family doctor and unless the family doctor is careful in his examination and astute as to the possibility that confronts him he will often fail to recognize what is probably the most common acute abdominal disease condition.

It is not my intention to even remotely



try to abstract this interesting paper; it should be read needless to say by every surgeon or one might say more particularly by every physician. Drop a line to Dr. John B. Deaver, 1813 DeLancey Place, Philadelphia, Pa., and ask him for a reprint of his paper which appears in the *Journal of the American Medical Association* for May 26, 1928.

#### CRIME AND PUNISHMENT

Of a different nature and appearing in a very different magazine is the next article to be discussed: "Crime and Punishment," by Frances Bowes Sayre, contained in the *Atlantic Monthly* for June, 1928. We as physicians should be interested in crime, as showing the trend of human society toward wrong-doing, and in punishment also, as showing also the trend of society in dealing with those who offend it. Some believe that the majority of criminals are of a low mental order, others do not. Some believe there is no such thing as a criminal class, others think it constitutes a very distinct entity in our social order. There is no question that: "the criminal situation in the United States so far as crimes of violence are concerned is worse than in any other civilized country. According to the figures given by Warden Lawes of Sing Sing prison the average homicide rate from 1911 to 1921 for England and Wales was .76 per 100,000, for Canada .54, for Australia 1.88, for South Africa 1.79, for Holland .31, for Norway .82, for Switzerland .18; for the United States in the registration area given to us 7.20. A recent investigation showed that during a year the number of automobiles stolen in Liverpool, one and one-half times the size of Cleveland, was 10; in London, ten times the size of Cleveland, 290; in Cleveland, 2327. The actual present cost of crime in the United States has been conservatively estimated at \$2,500,000 a day. In a single year the property loss for thefts in the city of Chicago alone is reported to exceed \$12,000,000. Since the war the losses paid by burglary insurance companies in the United States was said to have grown from \$1,686,195 in 1916 to \$5,670,760 in 1919, and to \$10,189,853 in 1920." So much for some of the statistical facts Mr. Sayre gives about crime.

With regard to punishment he mentions the ineffectiveness of delayed punishment as a

deterrent and the efficiency of swift and sure punishment as a preventive of crime. He takes up the criticism of trial by jury and says that this time honored custom is not without its drawbacks. He mentions at some length the rather slack so-called scientific methods of our police forces and contrasts them to their disadvantage with similar work done abroad. He also takes up in some detail the reforming of the criminal. One sentence is particularly striking: "To imprison a social defective for years in a place that seems calculated to him, make him unfitted for freedom, and then to disgorge him in a blinding freedom penniless and friendless and expect him to go and sin no more, is almost grotesque." This article is most interesting and comprehensive and is worthy of careful study on the part of every physician who is looking for the rehabilitation of the criminal and is interested in the onward march of his fellow-men. Get the *Atlantic Monthly* for June, 1928, and read it. Incidentally there are a great many other good articles in this issue.

---

#### SURGERY

GEORGE H. BUNCH, M. D., *Editor*  
Columbia, S. C.

---

##### INFECTION AFTER EXTRACTION OF TEETH

The discovery of the relationship of oral sepsis to focal infection and to the prevention of disease is one of the great comparatively recent accomplishments of scientific medicine. Mastication of the rough food of our forefathers massaged the gums and kept the teeth hard and fit. The food of modern man needs but little chewing and the teeth of modern man are deteriorating—one of the penalties he pays for civilization. A record of our cases some years ago showed that 90 per cent of the patients of middle age had some degree of evident tooth or gum infection.

Tooth extraction is undoubtedly the most common surgical operation and, although considered a minor procedure, is not without danger. Shock from it in adults is considerable. Persistent bleeding may be alarming. Secondary hemorrhage sometimes makes blood transfusion imperative. In adults the roots of the teeth are deeply placed in the

bone, and the wound after extraction soon becomes foul from infection of the traumatized tissue. There may be some sloughing of the gum; discharge of bits of necrotic bone from the wound for some time is the rule.

At first extraction was done without any anesthetic. A few years ago nitrous oxide or some general anesthetic was given by a physician for the dentist. Now local anesthesia is universally used and every dentist is his own anesthetist. Although Neimann first isolated cocaine from coca leaves in 1858 and its benumbing effect on the tongue was generally known in 1860, it was not put to practical use as a local anesthetic until 1884, the first to so use it being Carl Koller. W. S. Halstead of the Hopkins, in the same year, largely by self experimentation, discovered conduction or block anesthesia by cocaine. The American National Dental Association, in 1922, presented him a medal commemorating this for the great aid that it has been to oral surgery.

The use of conduction or regional anesthesia so generally by dentists everywhere for grinding and for extraction is a boon both to the dentist and to his patient, but unfortunately it is sometimes followed by infection that may cost the life of the patient. There are several reasons for this. Extraction is usually done for infection. Needling of infected tissue is dangerous. The nerves injected and the operative field are in close proximity to the brain. In general surgery one-half of one per cent novocaine solution is used for local anesthesia but the dentist may inject a 4 per cent solution of novocaine into bone or into the nerve to be blocked. Curetting and instrumentation of the bone socket after extraction may be the means of adding further insult to the tissues. Repeated packing of the wound after extraction with medicated gauze or cotton interferes with drainage and, by chemical irritation, tends to devitalize the tissues. But the most common cause of infection is the result of faulty aseptic technique in the preparation and in the injection of the anesthetic. The solution and the needle entering the tissues must be sterile if infection is to be avoided. A physician

tells of going to have a tooth pulled and seeing the dentist shake the previously sterilized novocaine solution in a bottle with his unsterile finger over its mouth. Many dentists have yet to acquire the aseptic conscience and the wonder is that there are not more infections after their work.

Several days after the extraction, when infection has become manifest, the surgeon is called in to see the patient. There is brawny induration of the tissues about the jaw, there is fever and leucocytosis. Incision along the bone with separation of the periosteum with relief of tension and aid to drainage in most cases is sufficient to control the infection and cure the patient. But when there is cellulitis of the face incision, as in carbuncle about the nose or lip, the infection is apt to be spread and the patient to die of cavernous sinus thrombosis or septicemia. When pus forms and there is fluctuation incision is curative.

We doubt if the medical profession appreciates the frequency or the seriousness of infection after tooth extraction. At the May meeting of the S. C. Baptist Hospital staff one physician reported having seen five such cases with three deaths. Some years ago we saw autopsies of two patients with brain abscess following infection from extraction. This year a worker in the city health department of Columbia died from extraction septicemia. Osteomyelitis of the jaw after extraction is not unusual, and multiple operations may have to be done before the patient is cured. A physician on examining a 12-year-old boy one month after infection from extraction was surprised to find gross necrosis of the mandible. The body from the symphysis to the angle was removed in one piece and the ramus from the angle to the articulation in another piece from within the mouth with a hemostat—without anesthesia, without pain, and without bleeding. Regeneration of bone did not occur and deformity is marked, but without further treatment the boy masticates remarkably well with one-half his mandible gone.

The problem of prevention is for the dentist. Conduction anesthesia for oral surgery is a serious responsibility and must be done

with strict aseptic technique if the safety of the patient is not to be jeopardized. After infection has occurred treatment is apt to be unsatisfactory and the condition progress to a fatal termination in spite of all treatment.

## PERIODIC EXAMINATIONS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*  
High Point, N. C.

### INTEREST IN PERIODIC EXAMINATIONS

Both the medical profession and the public are rapidly becoming interested in health examinations. Medical societies, individual doctors, civic clubs, parent-teachers' associations, women's clubs, and a great variety of individuals and organizations, are giving us enthusiastic support. We really wonder now, why most of us have been so slow in becoming aroused to the importance of this work! The army and navy have for a long time insisted on regular health examinations as indispensable. Surgeon-General Ireland contributes a foreword to Fisk and Crawford's book, "How to Make a Periodic Health Examination," which includes the following:

"Periodic physical examinations are of exceedingly great importance in the maintenance of health. The physical examination of an apparently healthy person must be systematically and thoroughly performed in order that injurious habits of living and slight or beginning functional or structural abnormalities may be revealed. The early detection of these conditions permits the application of corrective measures at a time when they will be most effective in preventing serious health impairment."

The movement in behalf of health examinations is nation-wide. Not only are the National Health Council and the American Medical Association promoting it, but, best of all, the man who will do the actual work, the doctor in the field, is getting more and more interested. When we started our work with the Life Extension Unit of the State Board of Health, its purpose had to be explained in detail to most of the physicians visited. Now, however, we find a large number of them, not only familiar with this pur-

pose, but enthusiastically supporting it, and ready to arrange for both clinical demonstrations and talks to various groups of people.

We have had a most gratifying response from Alamance county, where we have been working recently. Clinics have been held in nine doctors' offices in Burlington, Graham, and Haw River, and other clinics have been lined up for Mebane and the Hub School, and we hope to have still others in the rural sections. Talks have been given to three Kiwanis Clubs (the Burlington Rotary Club had already been addressed on health examinations by both Dr. Laughinghouse and Dr. Burrus), one Woman's Club, one Parent-Teacher's Association, and one High School in the county, and a talk has been scheduled for a County Council meeting.

We do not examine any large number of persons in any one place—we rather emphasize thoroughness of examination, and usually take about an hour for each examination. Where functional neuroses are encountered, an examination may take considerably longer than that, if there seems to be any hope of getting at the mental situation responsible for the trouble. Our purpose is purely educational. The few examined in one office by our unit go out and talk about it and cause other clients to go to their own family doctors for such examinations. A number of doctors have told us that a half a day of clinical work in their respective offices brought in quite a number of subsequent health clients for them to examine. We examine nobody directly, other than doctors or dentists—all others must be brought to us by their own physicians, and we insist on ample time for thorough work. Alamance has co-operated with us so splendidly that after a couple of days of organization work, arranging dates, etc., it was a rare day that did not find us holding a morning clinic in one place, an afternoon clinic in another, and filling a speaking engagement in the evening. Such a response enables us to see with increasing clearness, a great co-operative movement between the medical profession and the public of our state in the immediate future, which must result in a notable achievement in the conservation of the health of our people.



## OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville, Va.

### TWIN PREGNANCY WITH TRANSVERSE PRESENTATION

It is not our purpose at this time to discuss this condition from the ordinary point of view. In the majority of twin pregnancies delivery is spontaneous. The time between the delivery of the two babies is not long. It has been impossible to find from literature the frequency of twin pregnancies in the transverse position. I have had it occur only one time in seven hundred deliveries.

The transverse position is seen rather often in single pregnancy. In my own practice it occurs in one out of every thirty or forty deliveries. The cause for this abnormal position is not well known. Usually in twin pregnancy we find one cephalic presentation and the other breech, or we may have both cephalic presentations. In twin pregnancies I find about as many breech and cephalic, as cephalic, presentations.

The physician should first of all be sure that he has a condition of twin pregnancy in transverse position. Then, either shortly before the patient is expected to go into labor, or as soon as possible after she goes into labor, she should be transferred from her home to a hospital; for it is out of the question to deliver twins spontaneously in the transverse position, and the danger of prolapsed cord and hand is always to be feared. If a prolapsed cord occurs and there is enough pressure to cut off circulation, the baby soon dies of asphyxia. After removal to a hospital if labor has not begun the best method is to insert a voorhees bag, size 5 or 6, fill it with sterile water and allow this to dilate the cervix. When dilatation is complete, which will be when the bag is expelled, patient should be removed to the delivery room and completely anesthetized for delivery.

In case the bag is omitted and the patient is allowed to go in labor spontaneously, she should be kept in bed, watched closely, and as soon as the cervix has been completely dilated she should be removed to the delivery room.

During labor, whether produced artificially or allowed to come on spontaneously, the pa-

tient should be given hypodermics of morphine very freely to reduce the suffering as much as possible. This will not interfere with the process of labor; neither will it harm the babies.

The cervix being completely dilated and patient in the delivery room, she should be given an anesthetic for complete relaxation. The region of the vulva should be thoroughly cleansed with 1 or 2 per cent mercurochrome solution; also the vagina mopped out thoroughly with it. Then the bladder should be emptied with a soft rubber catheter. The vagina can then be ironed out slowly and thoroughly. The feet of the first baby are then brought down very gently and slowly and the trunk extracted. Deliver the anterior shoulder first, then rotate posterior shoulder to anterior position and deliver it the same way as the first. Now, with gentle pressure on the head of the baby and with the hand in the vagina, push up on the chin the least bit and the head can be brought through the superior strait without any difficulty. The head is now down on the floor of the pelvis. The baby can be very gently delivered by inserting the index and middle fingers into the baby's mouth with the other hand pressing on the head of the baby over the symphysis pubis, delivering the head very slowly and gently. As the perineum is brought down over the mouth any secretions which it may contain may be expressed. The baby may be allowed to remain in this position several minutes, taking abundance of time to deliver the head in order to do as little damage as possible to the pelvic floor. After the first baby is delivered it can be wrapped in a warm towel and placed on the abdomen of the mother, and you can proceed to deliver the second baby in the same manner. Delivery in this way will usually insure saving the babies and doing the least damage to the birth canal and prevent much suffering.

In case the patient with twin pregnancy in the transverse position is so far away from a hospital that it is impractical to make the transfer, the attending physician should bring in one of his co-workers for delivering her in the home under the strictest possible aseptic conditions. Chloroform or ether or gas should be given to the point of complete relaxation, the delivery proceeded with in the



same manner as if the patient were in a hospital. The delivery should be made as soon as the cervix is completely dilated, to prevent uterine exhaustion, or, on the other hand, the danger of the babies being killed by too prolonged uterine contraction. Exhaustion predisposes to hemorrhage, and both to infection.

To report a recent case: Age twenty-six, fifth pregnancy, normal weight 200. During her former pregnancies she had enjoyed perfect health and had had no occasion to consult a physician until she went into labor. The present pregnancy she said was "not right" from the beginning, and for the past two months she had suffered a good deal, but even so, on account of her unusual good health, she thought she could make it without consulting a physician, so she went along until something happened that she thought justified calling a physician. On the morning of May 6th, bag of waters ruptured. She had had no pain, but a little backache. After the membranes ruptured she decided to call a physician. I saw her about 8 a. m. Examination of the abdomen revealed two distinct bodies. The one above could be outlined and the back was pointing toward the diaphragm, the head on the right and the feet on the left. The one below was outlined with the back down, the head to the right and the feet to the left. The babies were facing each other. Vaginal examination revealed a thin cervix dilated about the size of a fifty-cent piece, and the back of the first baby could be felt. She refused to go into a hospital then, so I told her I would see her later in the day. Late in the afternoon I found the cord prolapsed into the vagina. There was pulsation, and fetal heart sounds could be made out. Both babies were alive. The patient was told it was absolutely necessary for her to be removed to the hospital if she wanted to save the babies and possibly herself, so in a few minutes this was done. A No. 6 voorhees bag was inserted into the cervix and filled with sterile water and a weight was attached to the bag so as to create plenty of irritation to the cervix; morphine was given freely to eliminate pain. At the end of three hours the bag was expelled. Patient was then transferred to the delivery room and prepared for delivery in

the same manner as already described. After patient was gotten ready for delivery and was thoroughly anesthetized, the vagina was thoroughly ironed out. The feet of the baby whose back was down and cord in the vagina, were located and very gently brought down into the vagina. (In this form of delivery I use elbow gloves). The trunk was rotated so the abdomen was anterior. With gentle pressure the trunk was delivered to the level of the diaphragm. At this point baby was rotated to the left, delivering the right shoulder under the symphysis pubis. The left shoulder was then rotated to the left and delivered in the same way. The right hand was inserted under the chin of the baby and the chin being pushed up, with the left hand on the occiput gentle pressure brought the head through the superior strait. Now, the head was delivered as described above. The second baby was delivered in the same manner. The second baby had its back up as already described, with face down. The first born weighed  $7\frac{1}{2}$  pounds; the second 8 pounds. Forty-eight hours after delivery the mother was allowed to go home in an ambulance. Both babies up to this date have been doing beautifully, and the mother has entirely recovered from the ordeal.

I report this case because of the unusual position of the babies and the prolapsed cord, and to emphasize the importance of having such patients in a hospital where every modern convenience can be used in assisting in the delivery. I think any doctor who has such cases will find it in the long run most helpful, even if the hospital is a little distant.

Any dangers done to the birth canal, laceration of the cervix and laceration of the pelvic floor should be immediately repaired. In my case which I have reported we fortunately had no laceration of the cervix or pelvic floor.

In some of these twin pregnancies there is a tendency on the part of the uterine muscles not to contract properly, and therefore you do not get normal involution. In such cases some preparation of ergot is advised. It can be given once or twice a day over a period of three or four days, and you will discover a considerable improvement in the condition with proper contraction of the uterus.

It would certainly be helpful to the pro-

fession at large if the readers of our Journal would report to us their twin pregnancies and the positions they find. We could profit a good deal in having these reports made from time to time; also description of the methods used in delivery.

## NEUROLOGY

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston, S. C.

### WHAT AILED HIM?

The following case is cited as an example of a transient, rather severe lesion of the nervous system with obscure etiological factors at play.

A few months ago the writer was called several miles out in the country to see what was described over the telephone as a "mental case." The patient was a white farmer about fifty years of age. The attending physician gave the following history, which is greatly condensed:

The man had lost his wife several months before and had been quite depressed. This depression had lasted so long that his children had become alarmed and had called the family doctor. Examination had shown nothing of note save a slight hypertension. The ordinary tonics had failed to give any relief. About two weeks before the date on which the writer saw the patient, the physician had decided to give a few injections of neosalvarsan. However, no wassermann had been taken. The first injection had produced no symptoms of an abnormal nature. The second injection was given a week later. The following day the patient felt bad, and had headache and fever. The second day, he complained of marked headache and dizziness. He was put to bed, but rapidly grew worse. Two days before the consultation he became confused and delirious and seemed quite ill. Examination by the writer showed a picture as follows: A well-muscled powerful-looking man, lying in bed with his head and eyes turned to the left. The right upper eyelid showed ptosis. There was a partial paralysis of the right arm. His eyes were open and he frequently smiled, in a silly, meaningless way. Questioning produced only one answer, the word "advertisement." The manner in which this word was used was

strongly suggestive of aphasia, although there was apparently a great deal of mental confusion present.

There was no fever, and the only systemic abnormality found save those cited was a blood pressure of 160/90.

With the history of the symptoms following neosalvarsan a tentative diagnosis of neuro-recidive, or Herxheimer's reaction, was made. He was brought in to a hospital and a lumbar puncture made. This gave a clear fluid with 10 cells. The following day he showed slight improvement, and was able to use his right arm slightly. Another spinal puncture was made and normal fluid obtained. The second morning there was marked improvement in his mental condition and he said a few coherent words. However, there was still an aphasic type of speech. On the third day his condition had materially changed. He was clear and talked fairly well. He used his right hand well and the ptosis had disappeared. From then on recovery was rapid and he left the hospital on the seventh day, apparently in good mental and physical condition.

Unfortunately for the accuracy of the diagnosis of neuro-recidive, the laboratory serological report on the spinal fluid and blood showed a negative wassermann and a negative colloidal gold. The question arises as to whether the condition was the result of arsenical poison. Again, the apparent relation of the injection of neosalvarsan and the sickness may have been a false one. The diffuse nature of the lesion and the rapid recovery militates against hemorrhage or other arterial accident.

All in all it was one of those complex cases which we all see occasionally and which leave us with a great respect for the complexity of the study of medicine.

## PUBLIC HEALTH

LOUIS L. WILLIAMS, M.D., Surgeon U. S. P. H. S.  
*Editor*  
Richmond, Va.

### INDIVIDUAL HOUSEHOLDERS GIVEN PROPER INSTRUCTION CAN CONTROL MALARIA AND MOSQUITOES

The new malaria season commences this month. We saw some cases during May, relapses from previous malaria, carriers already

infecting the new crop of *anopheles* mosquitoes. These infected *anopheles* are now planting the malaria which will crop out this summer and fall. What advice can we give those whose health is under our direction?

*Anopheles* do not become infected with the malaria plasmodium until they have had a blood meal from a carrier. This meal is taken at night. After feeding they are too sluggish to fly far; the vast majority at once roost on the nearest wall or ceiling, choosing the darker corners. They can be found behind mirrors, bedsteads, doors, in closets and on walls, and can be recognized by their characteristic attitude of "standing on their heads." Why not advise the family, wherever a case of malaria occurs, to kill every roosting mosquito seen on the wall each morning. This would destroy most of those that have had a meal of malarious blood and would remove a large source of infection for other members of the family and for neighboring families.

Almost any of our towns, cities or small communities can practice mosquito control. Drainage, oiling, or dusting with paris green (1 pound per acre) will remove the local *anopheles* (which flies not over one mile) and give a malaria-free, and often a mosquito-free, summer to any group of people. Control of production of *anopheles* is the surest method of malaria control. Our disease-bearing mosquitoes breed only in permanent water. Drainage is therefore the most lasting method of destruction. If oil or paris green is the method of attack, remember that it must be re-applied once each week. Rapidly running water may be disregarded.

There are places where control of mosquito production is not economic, or where it will not be practiced. What should we advise? What can be done to protect the isolated farm home built near very large producing areas such as mill-ponds or swamps? Advise screening. Our *anopheles* fly and bite only at night, a time when most of us are either in bed, or under a light. Adequate bed-room protection for all people would soon eradicate malaria in our southern states.

In advising a householder to screen, remind him that he must not only cover his windows and doors, but must cover all holes and cracks and must close the chimney. If the chimney is in use during the day, ample

protection can be had by hanging a wire bag containing one pound of moth balls in the chimney two feet from the top.

These are simple measures, one at least within the reach of anyone. Swatting engorged mosquitoes on the wall; controlling production of *anopheles*; or screening the home. The incidence of malaria in any community or home is a reflection on either the citizen or his health advisor. We can at least do our part.

---

## EYE, EAR, NOSE AND THROAT

For this issue F. E. MOTLEY, M.D.  
Charlotte, N. C.

---

### TREATMENT OF CHRONIC OTITIS MEDIA

The treatment of chronic otitis media may be divided into the usual two classes—conservative and radical. General physical examination to rule out the possibility of systemic infection, such as tuberculosis and syphilis, should be done in all the suppurative cases. Foci of infection, particularly those in nose and throat, should be removed. Only those patients with chronic suppurative otitis media with some such danger signs as dizziness, drowsiness or high temperature should be considered as candidates for radical treatment. Unless there is invasion of bone with some of the outstanding danger signs mentioned above, conservatism should be considered first in the treatment of chronic otitis media.

The first step in treatment is that of simple cleanliness and drainage. All polypi and excessive granulation tissue should be removed, also such drum membrane and ossicular remnants as may interfere with drainage. For the further cauterization of granulation tissue, chromic acid, trichloroacetic acid or phenol may be used.

During intervals between cauterization of granulation tissue it is usual to give the patient some solution of alcohol to use in the ears following cleansing with dry wipes. The use of watery solutions in the ear is contraindicated inasmuch as water may tend to stimulate granulation tissue and causes cholesteomata to swell if present.

Various drugs and dyes have been used for their antiseptic value in controlling and eliminating the bacterial flora present. Phenol,

iodine, mercurochrome, acriviolet, methylene blue, and acriflavine are among the drugs which have been used. There are objections to the use of some of these, particularly the dye preparations, which are difficult to use without staining surrounding skin and at times the clothing of the patient.

Often after the amount of discharge has been greatly lessened there will still remain a slight amount of moisture which will persist in the middle ear cavity. At this stage of the treatment, thorough drying followed by application of a thin layer of boric acid powder, iodoform or a mixture of equal parts of nosophen and compound stearate of zinc may be used. Any of these powders may be applied by either dusting over the surface with a fluff of cotton or with a powder blower.

Zinc ionization is a form of treatment of chronic suppurative otitis media which originated in Europe a few years ago and has

since been taken up to some extent by American aurists. There have been good reports as to the result, of zinc ionization treatment.

Even though the chronic discharge may cease under treatment, generally speaking the hearing is not improved to a great extent; usually it remains the same. Some cases are considerably improved, some show some loss of hearing.

The results reported by different otologists using different methods of conservative treatment vary from fifty to ninety per cent cured cases. There is uniform agreement as to the necessity of preliminary removal of polypi and exuberant granulation tissue and all stress the importance of thorough cleaning of the middle ear. The difference in opinion after the relative merits of the various antiseptics, dyes or zinc ionization is a matter in most instances of personal experience and personal ability in a certain technique.





## NEWS NOTES

### BUNCOMBE COUNTY MEDICAL SOCIETY May 28, 1928

When called upon to meet sorrow and the loss of one of their own, men meet the issue with reverence and fortitude. But in meeting such a loss it is entirely fitting that some expression of their appreciation of a departed friend and brother physician be made. Such a loss the Buncombe County Medical Society has sustained in the death of Dr. George Sturtivant Macpherson. Such an appreciation we here wish to spread upon the minutes of our society and to convey to his family.

Doctor Macpherson came to Asheville just at the conclusion of the war. At no time in his service did his physical vigor admit of very active participation in the affairs of the society, but those of us privileged to know him soon learned to value his fine qualities of heart and mind. He was a cultivated gentleman, an experienced, well educated doctor, who spared neither time, energy, nor effort to do his all for his patients' welfare. Ever courteous, modest to a fault, with a retiring disposition, conscientious, scrupulous in every detail of his professional and personal life, a man of high ideals, a devoted husband and father, he has gone to the far country from which no traveler returns. And so, in his passing, we wish here to record the deep sense of loss we feel at his going, our appreciation of his many fine qualities as man and physician, and our sincere sympathy to his bereaved family.

CHAS. HARTWELL COCKE,  
M. L. STEVENS,  
HANSON S. OGILVIE.

Whereas, In His Infinite Wisdom, Almighty God has seen fit to remove from our midst our dearly beloved confrere, Doctor William L. Dunn, and

Whereas, for the past thirty years Doctor Dunn has practiced medicine in the City of Asheville, has always enjoyed the confidence, esteem and good will of the citizens of Asheville, and

Whereas, Doctor Dunn's ability as a medical man was such as to bring him not only local and state recognition in the medical

profession but has been recognized throughout the length and breadth of the land, and

Whereas, Doctor Dunn by his untiring energy and love for his profession has always stood ready in the Buncombe County Medical Society to do anything and everything he could for the benefit of the society, for the City of Asheville, for the County of Buncombe, and the state at large, and

Whereas, Doctor Dunn at the beginning of the World War, at great personal sacrifice, volunteered for service with our army forces in Italy where he was in command of our medical unit as colonel, returned home with honors and continued active in the Medical Reserve Corps of the army up to the time of his death, now therefore be it

Resolved, That the Buncombe County Medical Society, assembled in memorial meeting on May 28, 1928, regarding the death of our confrere, Doctor William L. Dunn, does hereby deeply deplore his untimely death; and be it further

Resolved, That, recognizing his sterling qualities as a practitioner and as a diagnostician, we feel that in his death one of the most able men of our society has been taken away from us; and be it further

Resolved, That, while we bow in humble submission to the will of Almighty God, we can but pass these resolutions, spread them on the minute book of our society, and send a copy of the same to the bereaved family and to the local press, realizing and recognizing that the whole community mourns with us.

### THE RESOLUTION COMMITTEE.

C. P. Ambler, Chairman,  
Charles L. Minor,  
Joseph B. Greene,  
C. D. W. Colby,  
W. P. Herbert.

A BUILDING FOR CHILDREN was formally opened at the Guilford County Sanatorium, Jamestown, N. C., May 29th. A feature of the day was the annual picnic of the former patients of the sanatorium, which was held during the afternoon. More than 100 patients

and their families attended the picnic. Dr. J. L. Spruill, superintendent of the sanatorium, and Mrs. M. F. Massey, jr., nursing supervisor of the children's building, with members of the board of directors acted as informal hosts and hostesses to the visitors who were taken through the new building.

Dr. and Mrs. Spruill have labored and studied unceasingly to provide facilities for the care, comfort and happiness of the afflicted children who will come to them for treatment; and they achieved an amazing success.

Members of the board of directors of the sanatorium are Julius W. Cone, J. E. Cox, Dr. J. T. Burrus, Dr. R. M. Buie, Dr. J. V. Dick and Mrs. Annette Tinsley.

#### INTERSTATE POST-GRADUATE ASSOCIATION WILL MEET IN ATLANTA

The Interstate Post-Graduate Medical Association of North America will meet in Atlanta, Ga., October 12th to 19th, inclusive. This association in 1926 met in Cleveland, Ohio, where nearly 5,000 practicing physicians were registered. At the Kansas City meeting last October 5,200 were registered.

Those who come to this remarkable sort of medical meeting will really be given a post-graduate course by the leading medical men of this country and abroad. The daily meetings are held from 7 a. m. to 1 p. m., from 2 to 5 p. m. and from 8 to 10 p. m. Every one who has attended these meetings has been amazed by the magnitude of the work done, by its quality, by the number of distinguished guests and by the remarkable interest aroused.

It is hoped that every physician in the Southern States who can possibly do so will plan now to attend this meeting. The only charge imposed on physicians who are in good standing in their county, state and national organization is a registration fee of \$5.00.

DR. R. K. FARRINGTON and MISS MARY LOUISE BAILEY, both of Thomasville, N. C., were married May 26th.

MARTIN MEMORIAL HOSPITAL, Mt. Airy, N. C., held graduation exercises May 31st. The young ladies receiving diplomas were Misses Pauline Cook, Lena Booker, Rachel

Smith, Bettie Fowler, Alma Beamer, Inez Douglas and Vera Kenney.

THE MEMORY OF DR. WILLIAM A. JOHNSON, formerly Professor of Anatomy at Wake Forest College, is to be honored by the erection of a new medical building for the college in which he taught.

DR. E. S. KING has been made Professor of Bacteriology and Physiological Chemistry at Wake Forest.

DR. RUSSELL L. CECIL, of New York City, delivered the commencement address at the Medical College of Virginia, Richmond, on Tuesday, May 29th. Doctor Cecil is a distinguished alumnus of the college. Upon him the honorary degree of doctor of science was conferred on this occasion.

DR. THOMAS WHEELDON, Richmond orthopedist, spoke on spine and foot corrections to the students of Carolina College for Women, Greensboro, on May 17th.

DR. EUGENIUS A. HALL died on June 2, 1928, on the plantation on which he was born near Statesville. The old homestead was granted in 1752 to his great grandfather, James Hall, an immigrant from Pennsylvania, by the Earl of Granville, and since that time the home place had not been out of possession of the family.

Dr. Hall was a Confederate soldier. The funeral was held at Bethany Presbyterian church. Dr. Hall had been an elder in the church many years. He was almost 89 years of age. He was a graduate of the Medical School of the University of Maryland in the class of 1868; but he had been a student of the Medical College of Virginia in the session of 1866-67. This notice will carry special interest for our readers when it is known that one of Dr. E. A. Hall's sons is Dr. J. K. Hall.

DR. JAMES DAVISON McDOWELL, 54, veteran of the world war and one of South Carolina's prominent physicians, died at his home at York June 3rd.

Dr. McDowell had been a resident of York for over 31 years. He stood high in the medi-

cal profession and did a large consultation practice. In ill health for a number of years, he had waged a battle against the encroachment of disease.

He received his academic education at Davidson College and his medical training at Bellevue, N. Y., graduating there in 1897. He located in York the same year where he formed a partnership with Dr. W. G. White, which continued until the latter's death some years ago.

During the world war Dr. McDowell professed his services to his country and entered the army in September, 1918, with the rank of major. He was sent to the government hospital at Oteen, N. C., where as second in authority, he made an enviable record.

---

DR. WILLIAM PRESTON HOLT, JR., Erwin, and MISS FLORA GRAY JEROME, Goldsboro, were married May 31st.

---

DR. J. W. DICKIE, Southern Pines, made the address to the graduating class of the North Carolina Sanatorium School for Nurses, May 15th.

---

DR. WILLIAM ALLAN, Charlotte, was one of the speakers before the Eugenics Research Association, meeting in New York City, June 2nd, his subject being, "The Inheritance of Migraine." DR. DOUGLAS P. MURPHY, a former North Carolinian, now making his home in Philadelphia, spoke on "Eugenical Aspects of Pelvic Irradiation."

---

DR. WALLACE E. COLTRANE, Dunn, died June 2nd in the Johnston County Hospital at Smithfield. Dr. Coltrane had been suffering with cancer for several weeks, though his death came somewhat as a surprise. He was graduated from the Medical College of Virginia, Richmond, in 1912.

---

DR. EDWARD LANDLING KING, Wake Forest, and MISS HELEN VALENTINE DUNN, Wake Forest, were married June 2nd. Dr. King attended Wake Forest College from 1921 until 1925, after which he entered Jefferson Medical College for a two-year course. He received his M.D. in 1927, and after spending his internship at King's Park Hospital at King's Park, Long Island, N. Y., he

came to Wake Forest College School of Medicine as associate professor of Bacteriology and Physiological Chemistry. He has recently been advanced to a full professorship, and will return next fall in this capacity.

---

DR. J. B. SMITH, Pilot Mountain, died at a Winston-Salem hospital May 31st, his death following an illness of several weeks with Bright's disease.

Dr. Smith was 67 years of age, a graduate of the College of Physicians and Surgeons, Baltimore, 1885, and had been practicing medicine at Pilot Mountain since his graduation.

---

ROBESON COUNTY recently voted its confidence in its health officers in an 8 to 1 proportion.

---

DR. HAMILTON W. MCKAY, Charlotte, has been signally honored by being chosen a trustee of Davidson College, and president of that college's Alumni Association.

---

DR. J. BUREN SIDBURY, Wilmington, announces the opening of the new Babies Hospital on Wrightsville Sound.

---

DR. BENJ. F. HALSEY, Roper, Vanderbilt, 1923, died at his home June 15th.

---

EDGECOMBE GENERAL HOSPITAL Training School for Nurses, Tarboro, held its graduating exercises June 15th. Diplomas were presented by Dr. Julian M. Baker.

---

DR. PAULUS A. IRVING died at his home at Farmville, Va., June 11th. He was formerly professor of children's diseases at the Medical College of Virginia, secretary of the State Board of Health, and a member of the Board of Medical Examiners of Virginia. He was active in medical society work and one of the organizers of the Tri-State Medical Association.

---

DR. BARTLETT J. WITHERSPOON, Charlotte, died suddenly June 9th. He had served as president of his County Medical Society and councilor for his District. A more extended notice will appear in the next issue.

DR. GEORGE GRADY DIXON, Ayden, and MISS JULIANA ELLIOTT, Fayetteville, were married at Saint John's church, Fayetteville, March 24th.

A meeting of the Surgeons of the Southern Railway System was held at the Cavalier Hotel, Virginia Beach, on May 22nd, 23rd and 24th. A fracture symposium was the feature of the first day's session when seven papers were read on this subject. Dr. George E. Bennett, of Johns Hopkins University, Baltimore, was a guest of the association, and addressed the members on the subject of Fracture dislocations and recurrent dislocations of the shoulder. Three papers were selected by a committee of awards as being of greatest merit, and prizes were given for the following:

First—Traumatic Arthritis—Some Newer Aspects of Etiology and Treatment, by Dr. A. R. Shands, Jr., of Washington, D. C.

Second—Fractures—by Dr. S. O. Black, of Spartanburg, S. C.

Third—Intra-Ocular Foreign Bodies—by Dr. H. S. Hedges, of Charlottesville, Va.

Among other papers were: "A Report of Three Traumatic Surgical Cases," Dr. T. B. Reeves, Greenville, S. C.; and "Expert Medical Testimony," Dr. H. S. Hedges, Charlottesville, Va.

MAJOR GENERAL MERRITTE W. IRELAND, surgeon general of the army, is strongly in favor of setting apart a plot in Arlington National Cemetery for the burial of bodies of the soldier heroes in the fight against yellow fever and the erection of a suitable monument in their memory.

A bill has been introduced in Congress authorizing the National Cemetery Commission to set apart a plot for this purpose.

#### O-IODOXYBENZOIC ACID IN TREATMENT OF INFECTIOUS ARTHRITIS

O-iodoxybenzoic acid in the treatment of infectious arthritis, according to Harry C. Stein and Norman Taube, New York (*Journal A. M. A.*, May 19, 1928), has three main actions: (1) analgesia, (2) relief of muscle spasm, and (3) reduction of swelling. It is asserted by Willard Smith that the analgesia comes on ten minutes after injection and lasts for from twenty-four to forty-eight hours, and the patient may be completely relieved of all pain. Muscle spasm is relieved in from six to twelve hours. Of the series of 102 patients reported on, two with acute rheumatic fever were treated by rest in bed plus the

administration of the drug. All the others were ambulatory. The drug was administered in all the cases. One hundred cubic centimeters of a fresh 1 per cent solution was injected into the vein of each arm alternately every three days and the solution was allowed to run in by gravity. The authors used amiodoxyl benzoate-Abbott. Vials containing 1 Gm. of the drug were diluted in 100 c.c. of sterile distilled water. The administration never took less than twenty minutes and usually between thirty and sixty minutes. Patients were kept on a stretcher for from two to four hours after each administration. They were then allowed to go home and were advised to stay in bed until the next morning. Six injections constituted a course, but most of the patients received more than six injections. In the series there was a very severe reaction to the drug in eighty-two cases. In the other twenty the reaction was very mild. In none of the cases was there thrombosis of the vein. Nearly all types of arthritis were included in this series of cases: Two cases of arthritis following acute rheumatic fever; fourteen cases of arthralgia; two cases of gonorrheal arthritis; seventy cases of chronic atrophic and hypertrophic arthritis involving the large and small joints, and four cases of chronic arthritis involving the spine as well as other joints. Ten cases of less than six months' duration were classified as subacute rheumatoid arthritis, and cases of vague joint pains without clinical manifestations of joint involvement as arthralgia, of which type there were fourteen. The improvement was estimated very carefully. Two cases of acute rheumatic fever were made worse by the drug. Thirty-one patients claimed temporary relief of pain, but almost every one of them returned later with the same or exaggerated symptoms. The drug does not have any effect whatever on swelling or joint changes. The uniformly poor results caused the authors to discontinue the use of the drug.

#### THERE WILL BE DOG DAYS

Two girls are taken in charge by Tampa police because they appear on the street without stockings. Office of the president of the Atlanta Women's Club is padlocked, following an election in which policemen are called to keep order. It is not going to be a summerless year.

Another indication of a character quite different but perhaps none the less reliable is obtained from the Brooklyn *Eagle* via the Just Among Home Folks scribe of the Louisville *Courier-Journal*: "... about a feller that soaked a worm in whisky before using the worm for bait. There was a hard tug on the line. Hit was a big catfeesh. But the feesh had not swallowed the worm. The story teller 'lowed that the worm had ketched the catfeesh around the neck and strangled hit to death."

The Kentuckian authority does not swallow this narrative whole; "one little thing," he disbelieves: "That is about the catfeeshes neck. We believe that a catfeeshes neck is too short for a worm to get a good holt around same for to choke him to do much good. Rest of the story is probly true, we reckon."—*Greensboro News*.

#### PRACTICAL FIGURING

Visiting Relative: "And when was the baby born?"

Modern Father: "Between the second payment on the radio and the tenth on the car."—*Good Hard*



# SOUTHERN MEDICINE and SURGERY

VOL. XC

CHARLOTTE, N. C., JULY, 1928

NO. 7

## A THOUGHT ABOUT ADDICTIONS\*

JAMES K. HALL, M.D., Richmond, Va.

Westbrook Sanatorium

Mr. President:—To you and to the other members of the profession in my native state I bring the startling confession that I am myself—an addict. In the very earliest hours of existence as a separate organism I acquired an addiction to milk. Gradually the tendency to incorporate into my own being some of the elements of my immediate environment increased, and I became an addict to other substances that are usually called food and drink. And throughout the fifty-two years of my life my addictions have constantly grown in number. Slowly I acquired the custom of using clothing different in quantity and in quality from that of childhood. And I developed behavior different from that of infancy and adolescence. The vocabulary of early life was inadequate and unsatisfying for purposes of adult existence, and there was an increasing need for more words and larger phrases. I acquired word-habits, phrase-habits, and diction-habits. Constantly I was trying, sometimes consciously, but generally more or less unconsciously, to fit more comfortably and more efficiently into the world around me. Long ago I developed addiction to the use of a drug—caffeine. Sometimes for it I have substituted the stimulant of tea, but I prefer much my old addiction. We addicts do not like change, and we are wary of substitutes. Many years ago a single and all but fatal attempt to habituate myself to the use of tobacco by mastication proved to be a permanent failure, but I finally succeeded in becoming its devotee by smoking. And there are many habitual uses of words and phrases, and processes of thought, and beliefs, and doubts, and ignorances that I

should like to get clear of, but I am apparently helpless in the grip of these long-standing habits.

Twice the surgeons have applied to me their chilly cold steel. In each instance, before and after the application, morphine was administered to me. Existence was being cushioned for me by these kindly wielders of the steel, and my injured organism was induced to function more safely by the hypodermic medications. Had such soothing ministrations been continued I should have undoubtedly acquired eventually another addiction to my list of addictions. And it might have been only my misfortune, and the fault of no one.

So it is. The activities of mankind are directed, after all, towards making the state we call life a continuing process, with what degree of happiness can be extracted as the journey is kept up. However stable the surrounding universe may be, there are in it constant changes, large or infinitesimal, calling for adjustments, myriad in number, and infinite in complexity. And the human organism itself is unstable exceedingly. Physical hunger must be satisfied, fatigue must be lessened, sleep must be secured, activities must be directed, responsibilities carried, failures met, suffering endured, and disappointments encountered. Living is only a synonym for these changes. Activities are but the expressions of hope. An addiction that turns out bad for the individual is the manifestation of a judgment that was unsound. Every so-called addiction, reprehensible in its finality, is but the continuation of a purpose beneficent at its inception. Good much multiplied often becomes bad. Every bad addiction and therapeutic ignorance. The continued use of every drug is the manifestation

\*Presented by invitation to the Medical Society of the State of North Carolina at Pinehurst, May 2, 1928.

of the individual's hope to adjust himself more comfortably and more adequately to his world. The unhappy state of the addict is the result of personal diagnostic superficiality and therapeutic ignorance. The continuation of the habituation bespeaks the fear that change may bring personal disaster.

Those who are engaged in treating those addicted to the use of harmful drugs are asked not infrequently whether the addiction constitutes a disease or merely a habit. No word or phrase has ever been absolutely defined. Disease implies probably the existence of underlying pathology. If that be true then what we think of as symptoms are some of the manifestations of the disease through disturbance of the normal physiology of the organism. The constant use of certain drugs may bring about changes in the physical constitution of many of the organs. But, in most instances, the continued use of a drug is the exhibition of the individual's attempt to adjust himself better to the world in which he is living. Each of us lives, of course, in an entirely different world. If maladjustment be disease then drug addiction is a disease. But I think of drug addiction rather as the individual's blundering effort to do for himself the right thing in the wrong way. The effort to make diagnoses within one's self is apt to be disappointing. Self-medication is often disastrous.

Personal factors enter into the history of most physical diseases. There are few true epidemics and fewer pandemics. In the most universal scourge certain persons escape the malady. There is always some poorly understood resisting influence in certain individuals that saves them from assault. The personal equation enters largely into habituations. The addiction is always an individual problem; always the expression of the attempt of the sufferer to better his lot by self-medication. I believe there are as many causes for addiction as there are persons who find themselves addicted. In each of us there is the constant desire, and the persistent effort, to replace discomfort with comfort, despair with hope, pain with pleasure, failure with success, and obscurity with prominence. The most commendable efforts in these directions often fail; the struggles of the addict always fail ultimately. Constant poisoning lessens efficiency and finally brings cessation of function, or

death. In one individual self-medication is for the purpose of relief from actual physical pain, as in malignancy, tuberculosis, recurrent colics, and the myriad other painful physical conditions. There are others who seek to escape from sorrow and distress and disappointment and apprehension through the sedative, benumbing, or exhilarating effect of some substance—drink or drug. Many persons resort to the use of some drug to lift them out of a fit of despondency; others fall into some unfortunate habituation because of lack of self-control during a period of mild excitement. Vague and inarticulate realization of personal inadequacy not infrequently induces addictions in the professions: long-continued failure becomes mentally painful, and the physician or lawyer, or druggist, or minister, or politician, or actor, often lessens the pain by the use of some habit-forming substance. In the lower walks of life habituations are probably deliberately developed often in order to enable the degenerate to do without self-reproach some dirty deed—like murder, robbery, or arson. Prostitutes often make use of habit-forming drugs for somewhat similar reasons. Briefly, I should say, the habitue is trying to get away from pain into comfort; from unhappiness into happiness; from failure into success.

Those who seek surcease through the use of drug or drink must take such substances as they can procure. Bootleg whisky has largely replaced the lighter alcoholic drinks and the purer distillations. Various synthetics are used as unsatisfying substitutes for the opium educts. Not infrequently I encounter persons who take regularly aspirin, or veronal, or some bromide, or ammonia, or acetanilid, or pills, or magnesium sulphate. Habit-forming drugs are increasing in number. Many persons take in entire ignorance of danger many substances that finally get hold of them. This statement is especially true of the acetanilid-containing proprietary compounds that are sold at drinking fountains. I hope that we medical men own stock in no such drug store or fountain. Bromide intoxication is not unusual; I see not infrequently profound mental disorder manifesting bromide poisoning. Many of the so-called coal-tar derivatives easily lend themselves to the establishment of addictions. The paraldehyde habit is not rare. Trional, sulfonal,

veronal, luminal, and allonal are constantly taken by many people. It is probably true that alcohol is the least harmful to the physical mechanism of all the habit-forming substances. But its use begets drunkenness, with its irrational mental condition. Opium and its derivatives are probably less harmful in long-continued usage than most of the synthetic substances that are used as substitutes. The use of alcohol generally begets a feeling of revulsion; the drunkard feels disgust with himself; often he automatically quits; the drug addict holds on; generally he can not voluntarily quit; he constantly postpones all such effort.

Treatment? Prevention? The usual treatment results in failure because it addresses itself only to the intoxicated state. The usual institutional treatment is detoxicating and then upbuilding. Addiction is of itself a symptom; treatment that deals with it only symptomatically must fail.

The so-called Harrison Narcotic Law has been in effect since December, 1914. This law was practically written by the medical profession. It came into existence at the request of organized medicine and in response to appeals by almost all other organized bodies in this country. No one doubts that the Federal agencies are making an honest, determined, and persistent effort to enforce this law. Both as a curative measure and as a preventive of the drug-taking problem it is a failure. No one familiar with the situation believes that any smaller percentage of the people are using drugs now than were using them before the adoption of the Harrison Act. Since 1917 the liquor problem has been under the control of the United States Government. Most state, county, and municipal governments work in conjunction with the Federal authorities in efforts to control the use of alcohol as a beverage. The prohibition law is as ineffective as the Harrison Narcotic Law. Each is failing because it is dealing in superficial fashion with a grave problem. A serious illness can not be successfully treated

symptomatically. The individual who is well in body and in mind; who is efficient and happy; who is living in harmony with himself and with the world about him, is not going to be bothered by any craving for drugs or for rum. The person who is yielding, persistently or recurrently, to impulses to change his feelings by the use of this or that substance is out of tune with his world, and it behooves us to develop an understanding of the situation in its entirety.

A hundred years ago the insane in the most enlightened nations were treated as criminals. They were punished because they were insane. And today even in our own country they are often locked in jails as criminals. Drug addiction of itself is a medical condition and not a manifestation of criminality. Just as there is no general and universal causative factor underlying so-called insanity even so there is no single cause of drug addiction. Every single addiction calls for individual study and individual treatment. The problem is for the physician and not for the penologist; it calls for understanding and not for punishment. Not even the power of the Federal Government can rationally transform by legislative fiat a grave medical state into a criminal condition worthy of imprisonment.

I should like for our great government to adopt a more commendable and a more humane attitude toward these addicts who are already helplessly enslaved by their chemical habituations. They need liberation, not imprisonment; their condition calls for charity, not for cruelty. No great agency has ever undertaken the scientific and unprejudiced study of the addiction problem. Why can not our government address itself, by adequate hospital facilities and laboratory equipment, to an effort to comprehend the meaning of the problem rather than spend its energy and its resources in hounding these poor wretches into insane asylums, into jails, penitentiaries, and, often, into the graves of suicides?

---

## THYRO-GLOSSAL DUCT CYSTS\*

H. S. BLACK, M.D., Spartanburg, S. C.

In early embryonal life there is a duct leading from the foramen cecum at the base of the tongue to a point near the hyoid bone in the median line of the neck called the thyroglossal or thyrolingual duct. This duct results from the passage of the thyroid gland which arises at the base of the tongue downward to its normal position in the neck. It should become obliterated about the second month, however, in some few cases it persists.

The thyroglossal duct is histologically of the same structure as the mucous membrane of the tongue, so it naturally is lined by epithelial cells. When the duct persists, cysts occasionally form and are noticed usually in early life, but in some cases they do not form until some years have passed. These cysts are always in the mid line and move up and down during swallowing. They may not show their presence until some inflammatory process has set up in the duct causing a cyst formation and this becoming inflamed, the patient allows it to rupture spontaneously or goes to a physician who not infrequently incises it as an abscess, never realizing it is an infected thyroglossal duct cyst. In either case a sinus results which continues to drain more or less constantly a whitish discharge, always more profuse during deglutition. Often times the sinus will heal for a short time and the drainage will collect in a pocket which finally ruptures, permitting a return of the sinus. It is on account of the drainage and inconvenience, more than the discomfort, that the patient consults a physician.

Most all of the patients with thyroglossal duct cyst have had one or more operations, the reason being that a complete dissection of the duct tract, lined with epithelial cells has not been done, for as long as epithelial cells remain in a remnant duct, just so long will the patient have a recurrence.

It is easy as a rule to dissect out the cyst and that part of the duct below the hyoid

bone, but it is more difficult to remove that portion of the duct between the foramen cecum and the hyoid bone. Seeley, in 1907, called attention to the necessity of making traction on the cutaneous end of the duct so as to make it stand out and Da Costa, years ago, found that in one of his cases it was necessary to remove a part of the hyoid bone in order to give a cure. Sistrunk, a few years ago, devised a method which involves both of these suggestions above stated and which, if done properly, will cure.

Sistrunk's technique is as follows: At the level of the hyoid bone a transverse incision about two inches long is made. The skin and platysma muscles and the raphe connecting the sterno-hyoid muscles are reflected, exposing the cyst which is dissected free up to the hyoid bone and a part of the middle of this bone is removed because the tract usually passes above, below or through it. From this point the tissues are cored out for a distance of about one inch on each side making no attempt to isolate the duct. This dissection is carried upward and backward at an angle of 45 degrees to the intersection of lines drawn horizontally and perpendicularly, to the superior central portion of the hyoid bone until it reaches the mucous membrane of the tongue overlying the foramen cecum at which part the duct is cut off. The finger is introduced in the mouth at the foramen cecum making traction on the tongue. This guards against opening into the pharynx as well as localizing the point where the duct enters the tongue. The muscles are sutured and cut ends of the hyoid bone are approximated with chromic catgut. A small drain is introduced for 48 hours.

In my last personal communication with Sistrunk this operation had been done by him in over 20 cases with perfect results. These cysts are not so common as some of the other congenital deformities met with. Out of 8,652 consecutive cases at the Mary Black clinic there were 3 cases of cysts of the thyroglossal duct tract, but only two of previously operated elsewhere for this same them submitted to operation. They had been

\*Presented by title to the Thirtieth Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.



condition but without success. Following Sistrunk's technique, we were able to cure each case. Below are abstracts of these two cases.

Case No. 1.—A man, aged 24, came to the clinic with a draining sinus in his neck. Eight years ago he had a growth excised from midline of neck elsewhere, which was said to be a cyst. Following this operation there has been more or less of a continuous whitish discharge. Occasionally the opening heals for a short time, then without cause, starts to drain again. There is no discomfort except the drainage and frequent clearing of the throat.

Preoperative diagnosis of thyroglossal duct sinus.

Operation: Ether anesthesia. The thyroglossal duct sinus with opening in midline below hyoid bone was excised after method of Sistrunk removing part of the hyoid bone and the entire tract up to the mucous membrane of the tongue. Convalescence uneventful. Last report from patient two years later that result was perfect and he was feeling

fine.

Case No. 2.—Man, aged 21, came to the clinic complaining of drainage in the neck. For many years he had a small tumor in the middle of his neck and four years ago it became inflamed. It was diagnosed as abscess and was incised in his home town. Since then a whitish discharge has been present which is excessive during deglutition, otherwise there is no discomfort.

Preoperative diagnosis of thyroglossal duct sinus.

Operation: Ether anesthesia. Incision surrounding sinus opening which was just above the hyoid bone was made and the sinus tract injected with methylene blue. The sinus track was dissected out taking with it a part of the hyoid bone. It was divided and ligated at the foramen cecum just underneath the mucous membrane overlying it. The operation was performed after the method of Sistrunk. Small drain was inserted to be removed in 48 hours. Uneventful convalescence. Several years later patient was entirely well.

---

## PERORAL ENDOSCOPY\*

C. N. PEELER, M.D., Charlotte, N. C.

During the last quarter century medical science has made great progress. In every field of medicine diagnosis has become more accurate on account of the improved methods and means at our disposal. The remarkable development of peroral endoscopy is due to the demands of the general progress of medical science. In every accessible region of the body direct vision is called upon to aid in diagnosis and treatment. "Look and See"<sup>1</sup> is the order of the day. The ophthalmoscope, the cystoscope, the bronchoscope and esophagoscope are instruments of great value.

Some years ago the great usefulness of the bronchoscope and esophagoscope was only for the removal of foreign bodies, but now the field of these instruments has greatly widened. In cases of disease either in the esophagus

or the laryngo-tracheo-bronchial tree the endoscopist can inspect, remove specimens of tissue or secretions which may clinch the diagnosis, and also may aid in the treatment of many pulmonary and esophageal conditions. Among the principal of these are: malignant lesions, abscess of the lung, bronchial narrowing, strictures of the trachea, strictures of the esophagus, ulcerations, mapping of the bronchial tree, etc.

While specialists in this line of work appreciate fully the information which may be obtained by direct laryngoscopy, bronchoscopy and esophagoscopy, there are many of the medical profession who do not realize how much might be gained by the endoscopic inspection of the upper air and food passages in obscure conditions which are not infrequently present.

To illustrate:

Case I.—A girl thirty-four years old was

---

\*Presented to the Thirtieth Annual meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Virginia Beach, February 14-15, 1928.

referred to our clinic on account of some difficulty in swallowing of two weeks' duration. An esophagoscopy was performed, a tumor mass inspected and a small piece of tissue removed, examination of which proved to be a rapidly developing carcinoma involving the upper part of the esophagus.

*Case II.*—A boy thirteen years old, who had gone down three times in the Catawba river and almost drowned, was referred to us by a doctor with the information from his examination that "the child was only using one lung—apparently the right bronchus was closed by a foreign body, and the entire lung was filled with secretions, so much that the mediastinal structures were pushed somewhat into opposite side of the chest." There was very little cough, occasional slight temperature, and he had lost eighteen pounds in one month. Hemoglobin was 70, white blood count twenty thousand, appetite good, slept fairly well. By physical examination and x-ray it was seen that the entire right lung was "drowned."<sup>4</sup>

Bronchoscopy was performed. The lumen of the right bronchus was closed by swollen and edematous mucous membrane. This swollen condition extended into the smaller bronchi. By means of solutions of adrenaline and ephedrine enough shrinking of the tissues was secured to get a small suction tube into the bronchus. Very little secretion was obtained. However, this procedure enabled some air to enter the lung at the central portion. At each successive bronchoscopy more aeration of the lung was obtained. This was easily seen from x-ray pictures taken immediately afterward. Seven bronchoscopies were performed during first month. The boy gained ten pounds and at the end of three months was entirely well. Two efforts by swab to get cultures from the bronchus were unavailing.

*Case III.*—A woman thirty-eight years of age came to our clinic suffering with difficult breathing. This had been present for about eight years, but had been growing progressively worse for last three months. The patient thought she had asthma. The internist who referred her said there was some mechanical obstruction to her breathing. A stricture of the trachea one inch below the vocal cords was discovered by direct endoscopy. Dilatation relieved the condition,

*Foreign bodies in the air and food passages* can no longer be regarded as "curiosities"<sup>3</sup> in medicine. Thousands of specimens removed by Jackson and others attest to the frequency of this occurrence. The diagnosis of foreign body is of great importance and usually can be made by the general practitioner, although mistakes are not infrequent. The history should note the date of the accident; special attention should be given to the occurrence of choking, gagging, cyanosis, difficult respiration, or wheezing cough, pain, fever, difficult swallowing or regurgitation. Parents usually remember some of these symptoms or may definitely tell you of some known substance in the child's mouth at the time of choking. Now the question: is there a foreign body present and where is it located?

Foreign body in the esophagus has no constant physical signs, more or less difficulty in swallowing being the most common symptom. There may or may not be any pain. If perforation should occur, toxemia and fever will develop quickly. Blind probing should not be attempted. X-ray examination will give the desired information with no danger to the patient.

Foreign bodies in the larynx produce a wheezing respiration which has its own quality and is readily localized there. If the foreign body is large enough to close the glottis, death occurs quickly. If the intruder is not so large and swelling occurs sufficient to produce dyspnea, inspiratory indrawing of the supra-sternal notch, supra-clavicular fossae and lower sternum will be present. If labored respiration has been prolonged cyanosis and weakened heart action will develop.

The foreign body can be seen by the mirror, but in case of a pin or other pointed intruder an x-ray picture should be made to localize and visualize its position for removal.

If a foreign body is fixed in the trachea, the only objective sign may be a wheeze; if movable a palpatory thrill may be heard. The sudden stop caused by the sub-glottic tissues, Jackson calls the "audible slap." When felt by the thumb on the trachea, he calls it the "palpatory thud." The audible slap, the palpatory thud, and the asthmatic wheeze are absolutely positive for foreign body of the trachea.

Symptoms of obstruction of foreign body in the bronchi may be divided into three types according to the same author, viz:

- 1st, by pass valve
- 2nd, check valve
- 3rd, stop valve.

The first type permits the by-passage of air, in and out, on inspiration and expiration, so that no collapse or emphysema occurs in the tributary lung. In most cases there will be limitation of expansion on the invaded side; even a common straight pin in a small bronchus is sufficient to do this. Partial bronchial obstruction by a foreign body such as a nail permits air to pass in and out with some retardation and impairs the drainage of the affected portion of the lung. The percussion note is impaired. Rales are usually present. The air passing the body gives a blowing sound accompanied by harsh breathing or a snoring sound.

The second, or check valve, type permits more air to pass in than out at each respiration, consequently an obstructive emphysema develops. This check valve action is due to narrowing of the bronchial lumen during expiration and also to the swollen mucous membrane. The obstructed side shows marked limitation of expansion. The percussion note is tympanitic in character. Various degrees of tympany may be noted according to the amount of trapped air. No rales are present on the invaded side—frequently present on the opposite side. Fremitus and vocal resonance are not greatly altered. The heart and mediastinal structures are displaced to the opposite side. This picture is most frequently seen when the body is of an organic nature, e. g., a peanut, a bean, or a grain of corn.

For type three we have complete bronchial obstruction—here there is limitation of expansion, markedly impaired percussion note, particularly at the base, absence of breath sounds and no rales on the affected side. An atelectasis is present. The air imprisoned in the lung is soon absorbed and secretions accumulate, giving a drowned lung<sup>5</sup>. The mediastinal structures are drawn to this side at the beginning. Just the opposite of type two. Prolonged bronchial obstruction is followed by atelectasis, bronchiectasis and lung abscess usually in a lower lobe.

An x-ray picture of every foreign body case should be made. The cardinal signs of an

acute obstructive emphysema are:

1st, greater transparency on the obstructed side.

2nd, displacement of the mediastinal structures to the free side.

3rd, depression and flattening of the diaphragm on the invaded side.

4th, limitation of movement of diaphragm on affected side. Films should be made at the end of expiration to show these signs. Where atelectasis is present or drowned lung or abscess the x-ray shows density over the whole area. Later true abscess develops. Metallic objects are usually readily seen in the roentgenograms.

The treatment of foreign bodies in air and food passages is to remove them by peroral endoscopy. Waiting for spontaneous expulsion is dangerous. Our clinic has had only two in one hundred and fifty-two cases. Fishing, or blind probing in the esophagus is to be condemned, because of the danger.

Of the two hundred and fifty endoscopies in our clinic, forty per cent have been for diagnosis or treatment of cases, and sixty per cent for removal of foreign bodies. The number of foreign bodies includes a list of forty different objects—fifteen different types of metallic objects, bones, peanuts, watermelon seeds, nut shells, maize, beans, cockle burrs, sand spurs, cotton seeds, pebbles, cinders, artificial cedar. We have had three deaths—two per cent. Youngest patient six months old. Oldest patient seventy-eight years. Longest period of foreign body twelve months; longest period of history of foreign body thirteen years.

#### CONCLUSIONS

1. Peroral endoscopy should be more frequently used as a means of diagnosis and treatment in diseases of the air and food passages.

2. The general practitioner is the first one called upon to examine cases of foreign body and should be familiar with the signs and symptoms.

#### BIBLIOGRAPHY

1. Jackson Text Book Bronchoscopy and Esophagoscopy—W. B. Sanders Co., 1927.
2. Endoscopy—Looper Archives Otolaryngology—October, 1925.
3. Clerf, F. B., in Air and Food Passages—fifty cases—Laryngoscopic—October, 1924.
4. Jackson—F. B. in Bronchi—A. J. Medical Sciences—March, 1923.
5. Jackson—Bronchoscopy and Esophagoscopy—Surgery, Gynecology and Obstetrics—June, 1927.

## ADDRESS OF THE PRESIDENT of the NORTH CAROLINA HOSPITAL ASSOCIATION

C. S. LAWRENCE, M.D., Winston-Salem, N. C.

Meeting at New Bern, 1928

The North Carolina Hospital Association is one of the most important organizations in the state.

I wish to express my appreciation to this body for the honor conferred upon me in electing me its president. I assure you that I feel the responsibility that goes with this office, my conduct of the duties of the office has been in agreement with this conception of its importance. There is much work to be done and I have only touched the high spots.

The hospital progress in North Carolina has kept well abreast of the general progress of our wonderful state. When I was born the word hospital was practically unknown in my community, and the only institutions in the state, worthy of the name hospital, were the institutions for the care of the insane. Today we have modern hospitals in every town and community of any consequence in the state.

At our staff meetings I frequently take as my subject for discussion the question, "What Are We Here For?" and it is along this line of thought that I will address you ladies and gentlemen, on this occasion.

The North Carolina Hospital Association represents millions of dollars in property, invested in lands, buildings and equipment. The custody of this property entails great responsibility but our main responsibility is to the sick and afflicted committed to our care. The patient is most interested in getting well and back home to his family and friends, back to the job of making a living. The quicker he can get through the mill the more pleased he is with the mill; so, in order to turn out a good product we must have a good mill with all departments running smoothly. There is no place in the hospital for friction; once the slightest tendency towards a weakening of any part of the machine, that part should be properly lubricated or replaced.

Let us take a patient through the hospital. He probably never saw inside of one before. He is taken suddenly ill, probably with a ruptured appendix or he is suffering from acute nephritis; his mind is little concerned with what certain disease ails him; what interests him most is getting well. He may enter the hospital with morbid ideas of the institution and its personnel; oftentimes enlarged upon by a pack of untruths told him by a neighbor or friend, that type of gossip that will walk a mile to tell a lie rather than stand still and tell the truth. Often the patient enters the hospital with visions of blood and pus, death rattles and long nights of suffering in the dark all alone. The mother thinks the child is left in a cold room and fearfully spanked by the nurse if it whimpers. The husband thinks the wife is too weak to push the call button; the wife has visions of her dear husband with the urinary bladder distended to the ensiform, so timid is he about making his wants known to the nurse. It takes time and tact to dispel these erroneous ideas from the patients' minds. It can be done, and quickly. The remedy is one pill, kindness.

At the front the patient should be met by an intelligent, well-looking attendant, who will give the patient a home-like greeting and escort him to the admitting desk where he will receive the same kindly welcome. After taking the information required for admission he is then turned over to the nurse in charge who will escort him to his room. The nurse must be tactful in giving the patient instructions as to his conduct while in the hospital; if he is to remain in bed he should be told so; if allowed to sit up he should be told when and how long; he should be shown how to use the equipment, such as lights and call signals. If he chews tobacco at home allow him to do so in the hospital. If an old person cannot live without his red flannels he should be allowed to wear them. Don't try to change



a habit that has taken forty years to form in two or three weeks' stay in the hospital. Room service should be prompt and pleasing. The most trivial thing to us may, and often-times does, mean much to the sick person. The doctor should see the patient at once. For the doctor to wait hours and sometimes days to make his examination and prescribe treatment is most trying to the patient and is *prima facie* evidence of a poorly managed hospital.

When the time comes to go home the patient should be told on the day before, if possible, so that he or the relatives may make arrangements for the home-coming; special pains should be taken in instructing the family in the after care. Instructions, preferably written, in regard to diet, exercise and general personal hygiene with a copy to the family physician should be given the patient and a cordial hand clasp at the door will enable the patient to leave the hospital with a kindly feeling for those who have ministered to him.

The doctors who make up the personnel of the staff should and must have the best interest of the hospital at heart. If they do not take this deep interest the hospital will fail to perform its best service to the community. Only doctors who are thoroughly qualified and conscientious should be allowed on the staff. *Interne* duties should be clearly defined at once, and the performance of these duties assured. Their interest can be best be stimulated by example set by the seniors. Periods of internship should be fixed by a board of trustees in co-operation with the medical and surgical staff. The *interne* should understand that when he accepts a position on the *interne* staff he enters into a contract with the institution for a certain period of time for certain compensation, and he should be held to said contract by giving a reasonable bond, guaranteeing the performance of said contract. This is not unfair to the *interne* and will oftentimes relieve the hospital of embarrassment in case the *interne* should decide to terminate his services without notice, as often happens.

The nursing situation in North Carolina and throughout the nation is receiving much thought, and justly so. We have long recognized the nurse second in importance only to the doctor in the care of the sick, therefore the most cordial spirit of co-operation should

exist between the two professions. Nursing education, like education in any profession, cannot be too thorough. I am convinced that the educational requirements as recommended and adopted by the North Carolina Board of Nursing Education are not too strenuous. While some of the smaller hospitals may not be able to meet all the requirements special provision is made in these requirements for the smaller schools. The first and most important duty of those responsible for the training of nurses is the selection of student nurses. First of all the prospective student should be a graduate of an accredited high school, sound in body and mind, with a determination to make good, however hard the work. It is a common saying in the army that all one needs to make a good soldier is a weak mind and a strong back. Not so with the nurse; she must have both a strong mind and back. It would save the nurse much time if she would have her tonsils removed before entering the school. A majority of doctors and nurses will sooner or later come down with an attack of tonsillitis. The student well selected and given a fair chance will as a rule make good.

Community interest in the hospital will come in proportion to efforts put forth by every one in any way connected with it. The public should be made aware of service rendered. The populace cannot see through the walls of a hospital and tell what is going on on the inside; it is the duty of members of the staff to transmit this information to the people in an ethical way. This can be done through medical organizations, by speaking to open meetings, through addresses to civic clubs, church organizations, and particularly, national hospital day activities. You frequently read in the press of some miraculous surgical or medical stunt pulled off in some clinic so far away that facts cannot be verified. I believe that hospitals should put the public straight by stating the facts, emphasizing the point that as good medical and nursing service can be rendered at home as can be obtained in some far away place that they know nothing of. Hospitals should be used in making the periodic healthy examination through the family physicians at the hospital. The physician will have access to the hospital equipment, and specialists are available to assist as required. The original,

or at least a copy, of the examination record kept in the hospital file would not only help the physician but would impress the patient with the importance of the examination.

#### HOSPITAL SUPPLIES

The hospitals in North Carolina are much in need of a more business-like method in purchasing and distributing supplies. I am glad the Department of Commerce, Bureau of Standards, Washington, D. C., has taken this question up under the head of Simplified Practice. The question of standardization of hospital supplies can go through every article used in hospitals with profit. Let us take the question of food, if we could centralize our purchases and distribution there is no telling how much we could save on this item alone. A well organized system of co-operative purchasing should be able to take care of salvage from its group of hospitals, also the repair of equipment that we now have to salvage or go to, at times, a prohibitive expense to have repaired.

Careless, extravagant use of hospital equipment and supplies has necessitated the use of much red ink on the hospital ledger. Standardization and co-operative buying will do much toward eliminating waste. Hearty interest in the hospital by all concerned will do the rest. A surgeon who will use 20 cents worth of catgut to tie two small bleeders is wasteful and his attention should be called to the fact at once. A nurse who will allow the light to burn in the linen closet all day is wasteful and needs discipline; the orderly who uses twice as much wax on the floor as is necessary should be trained. Who will see to it that all these things are done? The all-wise superintendent of the hospital, she or he, is the administrator. The staff should be organized to the point where the hospital will perform without friction. She must be a superwoman or he a superman.

The emergency: The time will come in your community and mine when an emergency will arise necessitating an expansion of hospital requirements; whether small or large we should be able to meet it in reason within a few hours' notice. I only have to mention the recent floods in the Mississippi valley and other parts of the United States to bring out the importance of this point. Every hospital should carry a few extra beds, cots and blankets and other equipment necessary for the care of emergency cases.

I must not close this short address without paying my respects to that great man, Mr. J. B. Duke, who, through his wise bequest of funds, has made the way of the hospitals in North Carolina and South Carolina straighter and easier. We must be cautious, however, in receiving and disbursing such funds lest we get a little full headed on both sides. Let's not forget that there are other millions of dollars invested in hospital construction and maintenance outside the Duke Foundation. I will venture the statement that the majority of the hospitals here represented do not receive a cent of the Duke money nor do they need it. The private hospital is here to stay, there is not one in my knowledge that is not rendering a good service and doing well financially. The private hospital, therefore, will not be dictated to by a group of laymen (who know little and often care less about hospital management) merely for a few dollars toward the upkeep. I hope that these remarks will not be misunderstood, for I stand for the best interest of the hospitals of North Carolina. It has been remarked that the Duke Foundation will force the private hospital out of business. I say it will not, on the other hand it will make their position stronger, for it is service that the paying public wants and they can come nearer getting what they pay for in the private than they can in the public hospital.



## PHYSIOLOGICAL PRINCIPLES GOVERNING MEASURES FOR PREPARING PATIENTS FOR PROSTATECTOMY\*

R. B. McKNIGHT, M.D., Charlotte, N. C.

In benign hypertrophy of the prostate there is an alteration of function coincident with an interesting sequence of pathological changes. Obstruction, retention and infection involving the urinary tract have their untoward effects on kidney function, and as a result, the organism as a whole inevitably must suffer. In obstruction in any of the hollow viscera—whether in the common bile duct, stomach, intestine or urinary tract—there are physiological and chemical changes which are similar, in that there is a toxemia with accumulation of non-protein nitrogen, such as urea, in the blood. This is due to an increase in the breakdown of body proteins, or to its retention in the blood stream as a result of abnormal renal function. There are other alterations in the normal balances of various blood constituents; the acid-base equilibrium may be disturbed, the plasma chlorides increased or diminished, the carbon dioxide combining power altered, and the viscosity—and therefore the normal fluid balance of the blood changed. These changes must be recognized and properly handled or else they may cause death.

Physiological principles governing the correction of aberrant functions following obstruction are fundamentally the same. Methods, however, may be different, depending on the anatomic location and the degree of retention resulting from the obstruction. In these cases surgical procedure assumes three stages: the stage of preliminary treatment—the period of detoxication by means of elimination and neutralization; the operative removal or repair of the obstruction and its cause; and the post-operative care, which is essentially a continuation of the preliminary treatment, and guarding against possible complications arising from the operation. In this paper we are concerned with the physiological principles underlying pre-operative treatment; in other words, a study of the

patient's altered physiology, and methods of preparing him for operation by restoring to normal the alterations discovered. Experience has taught us that it is a rigid adherence to these principles which makes the treatment of prostatic obstruction due to benign hypertrophy highly successful.

To say that prostatic obstruction is due to benign hypertrophy of the gland, for example, is dodging the question in that the mechanism causing the retention of urine is not explained. Here we run into a real problem, for we do not know the exact cause. As a matter of fact we do not understand clearly the mechanism by which normal urination is brought about. We hear a great deal about the preservation of the internal sphincter. The normal internal sphincter has apparently a very minor role to play in producing normal urination. It is natural to assume that in benign hypertrophy there is an encroachment on and narrowing of the lumen of the prostatic urethra; such, however, is not always the case. Reerink has shown with certainty that the prostatic urethra is actually enlarged in many cases of benign hypertrophy. One of the theories concerning the mechanism of active normal urination is that the internal sphincter dilates allowing urine to be forced into the prostatic urethra and the reflex desire to urinate is thereby brought about. It has been claimed that in hypertrophy this action is lost. This idea cannot hold, as perfect continence has been observed in patients following prostatectomy with a wide open internal sphincter, and in functional overdistention of the bladder in children with acute retention. A failure of detrusor action of the bladder musculature is generally assumed, and certain observers have attempted to show that this is due to the loss or diminution of an internal secretion of the normal prostate governing detrusor action. Nevertheless, retention with varying amounts of residual urine is an important part of the clinical picture, and following this renal insufficiency and infection are prone to occur.

We are not concerned as much as we were

\*Presented to the Medical Society of the State of North Carolina, meeting at Pinehurst, April 30th, May 1st, 2nd and 3rd, 1928.

a decade or more ago about the urine as an index of kidney function. We know that we must also look to the blood and determine by various physico-chemical tests just what is being retained in the body, and correlate these findings with studies of the eliminated fluids and the signs and symptoms of the disease. So then, in addition to a careful history and examination, studies of the urine, phthalein returns and checks on the intake and output of fluids, any or all of which may give evidence of renal insufficiency, we must also study the blood for accurate information. The urea and creatinine content are generally increased, and may reach rather high limits. As the disease continues there is usually some depletion of the plasma chlorides and the carbon dioxide volume per cent is oftentimes lowered. The patient's general condition will usually check rather accurately with these findings.

We can then begin a more intelligent pre-operative treatment, namely; detoxication and restoration of the blood and tissue fluid constituents to normal. This can usually be accomplished by drainage and forced fluids. If the residual urine is less than 120 c.c. drainage may be done by means of intermittent catheterization, otherwise the use of the indwelling catheter is indicated. In about 25 per cent of all cases suprapubic drainage must be resorted to. Here again we run into a basic principle of pathologic physiology. It may be dangerous to empty suddenly a chest filled with pleural effusion, to drain off all the fluid at one sitting from a case of abdominal ascites, or to relieve too quickly a spinal fluid under increased tension. So in prostatic obstruction, especially if it be complete and acute retention is present, great care should be exercised to empty the bladder gradually. Too sudden a decompression may so reduce intravesical tension that a congestion of the entire urinary tract ensues, with a diminution of the output of urine or even an acute suppression. Several methods for continuous and gradual emptying of the bladder have been devised. My own preference is for the method described by Van Zwaluwenburg. Good results have been reported in using a ureteral catheter in the urethra.

Fluids must be forced. In perhaps the majority of cases water by mouth in sufficient amounts will suffice to allow sufficient inter-

change of fluid between the blood and tissues. Water is a solvent and a diuretic, and is of value in eliminating nitrogenous waste material. The use of a 1 per cent sodium chloride solution intravenously, as used by Bumpus in the preparation of patients with benign hypertrophy who have a disturbed renal function, supplies the blood and tissues with fluid and increases the number of chloride molecules thereby restoring the plasma chlorides. This usually has a desired detoxicating effect, and is evidenced by satisfactory results in other types of stasis, particularly in duodenal intoxication. Glucose being a carbohydrate, produces heat and energy, it protects the cell by detoxicating the products of aberrant protein catabolism and is an excellent diuretic. In a 10 per cent solution with 1 per cent sodium chloride it may be used intravenously with advantage. I have secured good results in conditions of stasis by using glucose by the murphy drip. Fluids, then, bring about detoxication and diuresis, and thereby neutralization and elimination of toxic products. The normal viscosity of the blood is maintained and therefore the normal oxygen carrying power of the red blood cells.

Under this treatment the patient usually improves. Blood pressure is decreased, the phthalein return increases, the urea content of the blood drops within a safe limit, and the fluid output checks with the intake. In other words renal sufficiency is restored and an actual or potential uremia is thwarted. The patient looks better and will tell you he feels better. Should improvement not take place it will become necessary to utilize the skin and bowels to assist in elimination. This is accomplished by the hot pack and purgation respectively. A small dose of pilocarpine or about 10 grains of aspirin to stimulate sweating may be given preliminary to placing the patient in the pack.

Renal infection not infrequently arises in the sequence, and it may assume serious proportions. It may be either hematogenous or ascending, as Braasch has pointed out, and may occur before or after operation—more frequently after. The hematogenous type usually has its origin in infection introduced into the prostatic venous plexus and is more frequently seen in the preliminary stages of treatment than post-operatively. The ascending type is probably due to a breaking down



of the kidney's great protecting barrier, normal ureteral peristalsis. This may appear following drainage of an overdistended and primarily infected bladder and is usually overcome in the stage of preliminary treatment by natural or acquired resistance on the part of the patient; it may appear post-operatively with added virulence. It is easy to see how infection of the ureter following diminished ureteral peristalsis is brought about, and as a result of reflux, infection of the renal pelves and parenchyma. Infection of course adds to the burden being borne by the already insufficient kidneys. It usually clears up under forced fluids, especially sodium chloride solution intravenously. Bladder irrigations with warm boric acid solution are advantageous; good results are often obtained by giving fairly large doses of hexamethylenamine intravenously; this is safe and may be used as a routine. The so-called genitourinary antiseptics given by mouth are probably worthless. Mercurochrome should be used as a last resort and then with considerable caution. It is apparently the most efficient of the drugs advocated for intravenous use, but is very toxic in the dosage recommended.

A strict adherence to the principles of treatment based on sound physiology will prepare most patients with benign prostatic hypertrophy so that operation may be safely performed, and give the excellent functional results which are generally obtained. I feel that this largely explains why the mortality rate has dropped from the early alarming figure of 50 per cent or more to the present one of 2 or 3 per cent in the hands of experienced men.

## BIBLIOGRAPHY

- Braasch, W. F.: Renal complications of benign prostatic obstruction. Interstate Post-grad. Med. Assn. of N. A., St. Paul Proc., Oct., 1925, 427-428.
- Bumpus, H. C.: Preparation of patients for prostatectomy. *Surg., Gynec. and Obst.*, 1926, 42, 183-186.
- Dixon, C. H.: The value of sodium chloride in the treatment of duodenal intonation. *Jour. A. M. A.*, 1924, lxxvii, 1498-1502.
- DuBois, Ch., and Boulet, L.: Action des extraits de prostate hypertrophie sur la vessie. *Compt. Rend. So. de Biol. (Paris)*, 1919, 82, 1054-1055.
- Hunt, V. C.: Suprapubic prostatectomy for benign prostatic hypertrophy. *Surg., Gynec. and Obst.*, 1926, xliii, 769-780.
- McKnight, R. B.: The normal physiology of the prostate and certain functional changes due to benign hypertrophy. *Sou. Med. and Surg.*, 1927, 89, 878-881.
- Reimann, S. P.: Rost's Pathological Physiology. P. Blakisten's Sons and Co., Philadelphia.
- Van Zwaluwenburg, C.: Emptying of a chronically distended bladder. *J. A. M. A.*, 1920, 75, 1711-1712.
- Walters, W.: Physiological principles in the treatment of benign hypertrophy of the prostate. *Surg., Gynec. and Obst.*, 1926, 42, 191-194.

## DISCUSSION

DR. A. I. DODSON, Richmond, Va.

I know we all enjoyed Dr. McKnight's paper. He outlines the methods very accurately that are carried out by all of us, and which are almost entirely responsible for the present good results obtained in prostatic surgery. I believe the operative technic for a long time has been sufficiently effective to obtain good results, but the methods which he outlined in preparing his patients are chiefly responsible for the very low mortality. We now face our prostatic patients with confidence, and expect not much more mortality than would be gotten in the average appendicitis operation on the same type of patients. We can divide our pre-operative treatment into four heads: gradual emptying of the bladder, free intake of fluids, blood transfusion, and cardiac support. One thing we should never insist too much upon or be too anxious about is getting into the bladder or urethra quickly. I have seen the urethra badly traumatized by trying to cram into it some kind of instrument when the patient is suffering. In one instance, when I did not have the right kind of catheter to get into the urethra, I used a very small hypodermic needle to go into the bladder above and drain off sufficient urine to relieve the patient, who was then taken to a hospital and a very small filiform catheter put in. Even though there is some danger, it is safer to put in a very small hypodermic needle.

Frequently these patients are anemic, and a small blood transfusion will put them into condition more quickly.

DR. A. J. CROWELL, Charlotte, N. C.:

There are just two points brought up by Dr. McKnight I wish to emphasize. The first is the importance of proper decompression or the relief of pressure to which the bladder has been accustomed. If there is only 100 to 125 c.c. of residual, intermittent catheterization is perfectly safe, but if there is a large accumulation of residual you have a very dangerous condition to deal with. There is always considerable congestion following

suprapubic drainage and especially if there is a large amount of residual, and occasionally anuria follows. I think the reports will show that about 2 per cent fatality follows this operation, and about 2 per cent the removal of the gland or the second step in this operation. The average now following the perineal operation by the skilled surgeon is about 2 per cent, giving a considerable advantage to the perineal operation from the standpoint of fatality. When done by one skilled in the perineal operation, the functional results following are equally as good as those following suprapubic.

The plan of drainage mentioned by Dr. McKnight is a very valuable one indeed and especially in cases where there is a great amount of residual urine without bladder infection,—that is, by means of the use of a No. 5 or No. 6 ureteral catheter allowing decompression to take place through the continued flow of the urine through this catheter. The patient should be put to bed and given plenty of water in order to keep the kidneys active while the bladder is being decompressed in this way. After the decompression is complete the continuous drainage through the retention rubber catheter should be carried on until the patient is in condition to be operated upon, as manifested by the phthalein output and the nitrogenous elimination. Dr. McKnight is of the opinion that about 20 per cent of the cases should have suprapubic drainage and operation by the second step method. I feel that the suprapubic operation should be done at one operation in the great majority of cases and that preparation can easily be carried out by the retention catheter. Dr. Lowsley, of New York, however, is partial to doing the suprapubic drainage after

decompression as a means of preparation for operation, but he removes the gland thereafter perineally.

Dr. R. B. McKnight, Charlotte (closing):

I believe there are instances where blood transfusion would be advisable. I question its advisability as a routine.

One thing I did not mention in my paper, as there was not time to go into much detail: these patients should be carefully fed. Usually there is little disturbance of gastro-intestinal function. During the preliminary stage of treatment they should be well fed.

The two-stage operation in some hands probably does carry a higher mortality. Those patients are the bad risks. In some hands the perineal operation causes a higher mortality. I think you will find, Dr. Crowell, that most of the few deaths which do occur following the suprapubic operation, occur in the course of the so-called two-stage operation. As many deaths, perhaps, will follow cystostomy as follow any method of removal of the prostate. I cannot see the advisability of Dr. Lowsley's procedure. If I ever have to have a prostatectomy I should want it done by either the suprapubic or perineal route—preferably the former, as I have seen the most excellent functional results from this method. I cannot see the advisability of doing both sections.

As to anesthesia, sacral and caudal block and abdominal infiltration reduce shock to a minimum, and practically all patients can be carried through the operation without any pain and with minimal untoward post-operative effects.



## LIVER DIET IN THE TREATMENT OF PERNICIOUS ANEMIA\*

W. T. RAINEY, M.D., Fayetteville, N. C.

Highsmith Hospital

Since the publication of Minot and Murphy's<sup>1</sup> article on the use of a diet rich in liver in the treatment of pernicious anemia, there has been an almost universal acceptance, both in this country and abroad, until now it is considered almost a panacea for a heretofore decidedly intractable disease.

Christian<sup>2</sup>, in discussing the paper, said: "It is interesting to have watched the enthusiasm accorded to various forms of treatment that have arisen. This is the first type of treatment that to my mind justified the enthusiasm of its advocates. The reasons are these: It is easily applied, it has always worked and the improvement in the clinical appearance is even more striking than the rise in the reticulocytes, and the later rise in the red cell count. This treatment has best stood the clinical test in 22 years of experience.

Whipple<sup>3</sup> and his associates in a recent work have shown the effect of food on blood regeneration. Their work was done on dogs and the results obtained by Minot and Murphy with liver in pernicious anemia follow closely those of Whipple and his associates on dogs. Since Addison's first description of the disease now called pernicious anemia various diets have been recommended. These usually contained a relatively high nitrogen content and often a relatively large number of calories.

In four cases to be reported, the diet as outlined by Minot and Murphy was followed. This consisted of the addition of from 180 to 240 grams of liver to an otherwise well balanced diet. Calf's liver is to be preferred, though other mammalian liver may be used. It was prepared in any way that the patient wanted it. Though, they were cautioned not to use much grease, and not to cook it too long. One of the patients had no teeth; so the liver was finely ground

before cooking and on several occasions was served raw as a cocktail. The rest of the diet consisted of the following:

100 grams or more of beef or mutton muscle meat.

Not less than 300 grams of vegetables containing from one to ten per cent of carbohydrate, especially lettuce and spinach.

From 250 to 500 grams of fruit, especially peaches, apricots, strawberries, pineapples, oranges and grapefruit.

About seventy grams of fat derived from butter and cream was allowed in order to make the food attractive. However, animal fats and oils were excluded so far as possible.

If desired, an egg and 240 grams of milk.

Bread, especially dry and crusty, potato and cereals were allowed in order to make the total intake between two thousand and three thousand calories, composed usually of about 340 grams of carbohydrates, 135 grams of protein and not more than 70 grams of fat. Sugar and other sweet foods were allowed very sparingly. Tea and coffee as desired.

In the beginning, the food, especially the liver, should be weighed until the patient is familiar with the approximate amount of each. The diet should be continued even though the red count remains high. How long the remissions of the disease are to last in patients that eat liberally of liver cannot be told as yet.

In the beginning of the diet the patients could not take the full amount prescribed. Following Minot and Murphy's recommendations, they were advised to eat the liver, fruits and some of the vegetables first and any of the other foods they cared to take. As their condition improved, they were able to take the full diet without any inconvenience.

Unfortunately a study of the reticulocytes and icterus index was not made in the beginning of the treatment in these cases so

\*Presented to the Medical Society of the State of North Carolina, meeting at Pinchurst, April 30th, May 1st, 2nd and 3rd, 1928.

that a comparison cannot be drawn. Minot and Murphy found that the first signs of improvement were an increase in the reticulocytes and decrease in the icterus index. These were soon followed by a rise in the red cells.

In the four cases reported, the improvement noted was prompt and continuous while taking the diet. Only one case has carried it through without interruption, and for the ten months she has been on it her condition has been entirely satisfactory. The amount of liver she was taking was reduced as the red count went too high. One other patient ate the diet reasonably well, and while not entirely recovered, he has been able to carry on his work, and had an appendectomy for acute appendicitis without any ill effects.

One patient had signs of neural involvement which were less marked while on the diet and he did not take it regularly.

One of the greatest difficulties encountered in these cases was obtaining sufficient liver in the rural districts. Since the introduction of a satisfactory liver extract this difficulty can be met. While this extract is rather expensive, the increase in earning power of the pernicious anemia patient while taking it will more than compensate for its cost.

#### CASE REPORTS

Case No. 1—White man, aged 54. Admitted to hospital March 11, 1927; for the past year has not been feeling well; cannot do his usual amount of work on account of weakness. For three months, he has felt as if his heart would jump out of his chest following slight exertion. During the year, has had occasional attacks of diarrhea of short duration. Skin gradually becoming more pallid and for the past month has had a yellowish tint. Some edema of the lower extremities for one month, and sore mouth for several months.

Physical examination reveals a fairly well nourished state, skin pale yellowish, mucus membranes pale, tongue smooth and red, teeth and gums healthy. The heart has a faint blowing systolic murmur best heard at apex and transmitted to the left axilla, no enlargement. Edema of lower extremities—no signs of involvement of neural system.

Gastric contents showed no free hydrochloric acid; reds 1,720,000; hem 45 per cent

(Sahli); whites 5,000; no malaria. Blood smears typical of pernicious anemia.

The patient was given a blood transfusion and put on Minot diet, with dilute hydrochloric acid and ultra-violet light.

The patient made rapid and continuous improvement, skin cleared up, diarrhea ceased and stools were well formed and normal. He was discharged after twenty-three days in the hospital, markedly improved, reds 3,200,000. One month after discharge, the patient was feeling good; reds 4,500,000; hem. 85 per cent. In November the patient had an attack of acute appendicitis and was operated on, making an uneventful convalescence. He has not been adhering entirely to diet.

Case No. 2—White man, aged 63. Entered hospital July 5, 1927, complaining of weakness. Has had nose bleed several times each year for most of his lifetime. Six months ago he had a severe nose bleed, which lasted for nearly two weeks, during which time he lost a large amount of blood. Following this, he had a periodic diarrhea. He is very weak.

Physical examination shows skin and mucus membranes pale, some atrophy of tongue papillae, marked pyorrhea, edema of lower extremities. No signs of involvement of neural system. Reds 1,152,000; hem. 28 per cent (Sahli), whites 7,000. No malaria. Blood smear characteristic of pernicious anemia; differential counts normal.

He was put on modified Minot diet with dilute hydrochloric acid. Blood transfusion given July 6th. After three days in the hospital, he was discharged. Reds 1,610,000. Since his discharge, his condition improved steadily, during which time he ate liver irregularly and took dilute hydrochloric acid.

He continued the treatment for one month and made rapid improvement. He did not think it necessary to take any treatment, as he felt entirely well and was performing his usual duties. Due to difficulty in obtaining liver, he discontinued it, but kept taking the acid. His condition became less favorable until now his reds are 2,200,000, his physician writes. He is now taking liver extract. The patient has not returned for observation since discharge.

Case No. 3—White man, aged 54. Entered hospital June 15, 1927, complaining of weakness, pallor and numbness of feet—had



influenza in 1919, and has not been well since. During this time, would become pale and weak, except for short intervals of improvement. He has had numbness of feet for two months and cold feet and hands.

Physical examination revealed poor state of nourishment, skin pale and yellowish, mucus membranes pale, tongue smooth and red, gums healthy, some edema of the lower extremities, prostate two plus enlarged on scale of four.

Fractional gastric analysis showed an absence of free hydrochloric acid. Red blood cells 1,360,000, hem. 60 per cent, white 4,800. Malaria and blood wassermann negative. Blood smears typical of pernicious anemia, differential counts normal.

Patient was given a blood transfusion and put on Minot diet with dilute hydrochloric acid. He showed steady improvement and the numbness in feet was less marked. After nineteen days in the hospital he was discharged with 2,140,000 reds. After discharge he did not keep up the diet regularly on account of the difficulty in getting the liver and a distaste for it, but his red cells gradually increased and at the end of two months were 4,000,000 and hemoglobin 80 per cent. At this time he was feeling well, except for some numbness in the feet. After this, he stopped the diet and in two months, the reds were 2,880,000 and hemoglobin 80 per cent. He was persuaded to take liver again, but only got it every other day. In six weeks, his reds were 3,480,000. He was put on liver extract daily and is feeling good with reds ranging from 3,500,000 to 4,100,000. There is still some numbness of the feet.

Case No. 4—White woman, aged 27. She was admitted to the hospital June 1, 1927, with the following history:

In March, 1926, while teaching school had an attack of influenza. Returned to her work in four weeks but was not entirely well. Taught for three weeks when she developed acute pyelitis, and became very weak and anemic. Reds dropped to 800,000 and hemoglobin 10 per cent, when she was given a transfusion, which was repeated in three days. Gastric analysis showed an absence of hydrochloric acid. She was given dilute hydrochloric acid and tonics. She improved enough to return to her school in September. Reds 3,500,000. Has had periodic attacks

of diarrhea lasting for several days. During the spring of 1927, she was not as well as previously and gave up her position and returned home following a very severe attack of diarrhea.

Physical examination revealed poorly nourished state, skin waxy, mucus membranes pale, edema beneath eyes and in lower extremities, tongue smooth, teeth and gums good. Heart had a systolic blowing murmur at apex transmitted to left axilla. No enlargement.

Reds 1,996,000, hem. 35 per cent, whites 6,000. Malaria and blood wassermann negative, differential count normal. Blood smears typical of pernicious anemia. Stools negative for ova and parasites. The urine showed heavy trace of albumin and few pus cells and casts in catheterized specimen.

The patient was discharged from hospital the next day. Put on dilute hydrochloric acid and Minot diet. She made rapid improvement and in one month was feeling well. At this time her red cells were 4,400,000, hemoglobin 100 per cent.

In September, three months after starting the diet, her reds were 4,560,000, hemoglobin 100 per cent. The red cells continued to increase until they reached over 5,000,000, when the amount of liver was reduced. She was continued on this diet and on April 9, 1928, her reds were 4,330,000 and hemoglobin 100 per cent. She has taught the entire session without any bad feeling and clinically is entirely well, having no diarrhea or other symptoms that she has had in the past.

#### CONCLUSIONS

1. The Minot and Murphy regimen does not remove the cause of pernicious anemia, whatever that may be, but does symptomatically cure it as long as the patients take the diet.

2. A properly prepared extract of liver will make it possible for those to carry out the regimen who cannot obtain the fresh liver or have a distaste for it, and get the same good results.

3. It will solve the economic problem in these patients, as it will stop the loss of time from remissions, and the expenses incident to hospitalization, transfusions, etc.

## BIBLIOGRAPHY

1. Minot, G. R. and Murphy, W. P.; Treatment of Pernicious Anemia by a Special Diet, J. A. M. A., 470-476, 1926.
2. Christian, Henry A., Discussion of Minot and

Murphy's paper on Feeding Whole Liver in Pernicious Anemia, J. A. M. A. 87, 59, 1927.

3. Whipple, G. H., and Robschtein—Robbins, F. S., Favorable Influence of Liver, Haert and Skeletal Muscle in Diet on Blood Regeneration in Anemia—Amer. Jour. Physiol 72: 408, 1925.

## ESTIMATION OF THE KIDNEY FUNCTION

O. E. FINCH, M.D., Raleigh, N. C.

Mary Elizabeth Clinic

Does the ordinary chemical and microscopical analysis of urine really reveal anything of the true condition of the renal function? Those of us who have supervised the physical condition of the prospective mother have seen, on many occasions, a urine containing a heavy cloud of albumin and many renal casts, and yet see in that case a normal delivery, without alarming symptoms of impending uremia or eclamptic convulsions. On the other hand we have had other maternity patients who had but a faint trace of albumin and no renal casts, with little warning develop most alarming eclamptic convulsions, and a few of them die as a result of uremic poisoning. In either of these instances renal casts may be present or absent. Even though the urine does contain casts, does their presence mean an impending fatal issue?

Again and again we have seen patients whom we classified as cardio-renal type, in whom we have the classic symptoms and findings of high blood pressure, albumin, and casts in the urine, atheroma of the arteries, nocturia, secondary anemia, dyspnea on exertion, edema, headache, etc. In these cases we frequently make a guarded prognosis, and perhaps rightly so, yet how many of these renal cases have crossed the great divide as early as we really anticipated? Again we have in a youthful patient, albuminuria, following scarlet fever or some acute infectious disease and we feel apprehensive about the future, and therefore, perhaps advise against some certain occupation on account of the apparent renal impairment: years pass and we lose sight of this patient to again see him apparently enjoying most excellent health.

Another case is found that will require a major surgical operation. This patient may have been dieted for a number of months

or years—naturally, on account of his light diet, his kidneys have had very little waste to eliminate. The usual chemical and microscopical urine tests are performed, reported negative, and he is considered a good operative risk. Following a rather prolonged etherization, he comes from the operating room apparently in good condition. Twenty-four to forty-eight hours later, a urine specimen is examined and found to contain a shower of hyaline and granular casts, albumin plus 2. Symptoms of uremia rapidly develop, and the patient progressively becomes worse until death ensues.

With these various experiences my mind is naturally in a whirl as to the real status of the kidney. I ask my medical friends and colleagues, "Where are we today as to knowledge of the kidney function? What can we say to our patients who apparently have a renal impairment? Under what circumstances do we say that in a given case there is good or poor renal function? What shall we tell a patient about his prognosis—when we have found renal casts and albumin?" These are questions which involve family doctor, internist, surgeon, obstetrician, and other specialists in various branches of our profession. Briefly, we will consider this problem in a course which I hope will lead us to a better understanding of the renal function. For years we have been taught to consider the products that are excreted in the urine by the kidneys and have been more or less indifferent about those ingredients that the kidneys *fail to excrete*. The kidney is an organ with many functions; it eliminates water, salt, nitrogenous substances and urea. It also has the capacity to pass substances such as dyes, toxins. There are other factors which influence the activity of

the kidney at a given time (neurogenic, circulatory, inhibitive) which tend to modify the renal function, and these factors are to be considered in any attempt to evaluate the kidney capacity for function. We can only arrive at some sane conclusion on a given kidney function by the synchronous estimation of certain substances as found in the blood and in the urine, and make a comparison between the quantities in the blood, and that excreted in the urine during a stated period. Therefore, the performance of special function by the kidney leads us into a check on the amount and quality that can be excreted by the kidneys under investigation.

The phenolsulphonephthalein test is quite popular with many clinicians for a qualitative and quantitative estimation of the excretion of a given amount of dye-stuff. This test gives only the information concerning the renal function *at the time the test is made*. This test may parallel the blood chemistry, but it shows only the renal function for that time. This test indicates a present function, but blood chemistry more nearly indicates the true grade of the working power of the kidney. We frequently find kidneys that will very readily excrete dye-stuff in spite of a marked renal disease. This but indicates the selective power of a given kidney to excrete a dye-stuff. Extremely low output of dye has been observed with evidently a fairly good renal function insofar as non-protein nitrogenous retention is concerned. The phenolsulphonephthalein test is not altogether reliable. Therefore, we may ask what is of value other than the urinary findings. This leads us to the investigation of the ingredients as found by blood chemistry. This

involves the quantitative studies of non-protein blood constituents—non-protein nitrogen, urea nitrogen, uric acid, creatinine, creatine, sodium chloride, and cholesterol. In nephritis all of the ingredients, or any one, may be retained in varying amounts. Usually the first ingredient retained is uric acid, which may be retained for the reason it is the most difficult for the kidney to excrete. Urea is next in order, then creatinine,—the easiest of the three to excrete. In cases of uremia these three ingredients may be retained. The estimation of creatinine is very important from a prognostic sign, as when it is retained in concentration up to 5 mgm. per 100 c.c. of blood, the outlook is very serious. Too much emphasis cannot be placed upon the correct evidence of blood chemistry figures in estimating the true condition of nephritis, particularly in arriving at conclusions as to prognosis in both surgical and non-surgical cases.

It should be an inflexible rule in every hospital not to recommend for major surgery any case that has not had, at the least, a creatinine, or non-protein nitrogen estimation made, the one possible exception being in a surgical emergency. Perhaps this would appear a little over cautious, but should it be the means of saving one life in ten years, the extra precaution would be time well spent. It is far better to know when *not* to give a general anesthetic, than to give an indiscriminate and inaccurate opinion *for* an anesthetic. Further, can we ever give an accurate prognosis in any given case of nephritis unless we have at our command information relative to the ingredients the kidneys are failing, or succeeding (as the case may be), to eliminate?



## THE SURGICAL TONSIL

VANCE P. PEERY, M.D., Kinston, N. C.

Department of Head Specialties, Kinston Clinic

By the term *surgical tonsil* I mean the tonsil which is removed by surgery, or destroyed with x-ray, diathermy, or cautery, etc. Assuming that no reputable man, surgeon or otherwise, would attack the tonsil without definite indications, what would be considered rational reasons for condemning any tonsil to destruction? . . .

In our experience at the Kinston clinic we consider a tonsil surgical not by reason of its size, unless it is obstructing respiration, deglutition, or the eustachian tube, as we believe a small contracted tonsil with very few crypts at the upper pole will, in many instances, demonstrate cryptic retention more clearly than the fairly large and so-called pendulous tonsil. This is especially true of tonsils in adults. The presence of crypts in small or large tonsils, which yield pus upon pushing aside the pillar with a retractor and exerting pressure backwards, which cause gagging or just bring into play the action of the constrictor pharyngeus muscle and the musculature of the pillars, we condemn. If in addition to the cryptic retention we find adenitis of the cervical nodes along the anterior border of the sterno-mastoid muscle we feel more sure of our ground. We never make the diagnosis of surgical tonsil by visual inspection alone. The tonsil must be subjected to repeated expression.

The point has been made many times that cryptic retention is not sufficient reason for extirpation; but cryptic retention generally means infection blocked and to be found in the bottom of the crypts, demonstrable on section of the removed tonsil and in cultures taken from that site. We admit that cryptic retention may be decomposing food, etc., but the substance blocked by those hard, yellow, foul-smelling particles is what demands our attention. We always note the condition of the anterior and posterior pillars and the pharyngeal wall, and believe that as a rule a thickened and congested pillar has infec-

tion behind it, and that in many instances of pharyngitis can be demonstrated due to tonsillar infection. A history of repeated sore throat, tonsillitis, cervical adenitis, and cryptic retention demonstrated upon tonsillar expression, constitute, in our opinion, adequate grounds for condemning the tonsil.

Allow me to admit triteness in presenting the definition and in what is to follow, thereby permitting me to dismiss the physiology and embryology with a brief mention. The physiology has been and still is a much debated topic. There are those who would ascribe to the tonsil a very definite and indispensable function, predicting dire consequences following extirpation. Needless to mention the operation is old enough to speak for itself. And as in many other criticisms of sane surgical procedures, outside of the emergency class, the arguments against are not only faulty, but offer no valid proof when all evidence is in. We believe the tonsil is a part of the lymphatic system, and as such, up to the age of six or eight, has a hematopoietic function which is important but not indispensable; and when the tonsil, even in early life, becomes hypertrophied, harboring infection deep in the long crypts, and obstructing or hindering the physiologic function of other nearby organs, we do not hesitate to condemn it just as readily as we would the acutely inflamed appendix, or numerous other organs which abound in lymphoid nodules. As to its internal secretion, its protective, its eliminative, or other useful function, we do not believe either to be impressive except by reason of the volume of literature and the fanciful speculations which it has produced. Barnes<sup>1</sup>, in his book published in 1923, discusses this question at length, and the reader is referred to that excellent volume.

As to the origin of the tonsil—its epithelial inner covering and the lining of the crypts is entodermal, the crypts being formed



from the tonsillar buds of the second visceral cleft. The lymphoid follicles, the very prominent tissue of the tonsil, is mesodermal.

As to whether or no the tonsil as a focus of infection is the chief point, it may be well to refer to bacteriology. It is the culture taken from the depth of the crypt which demands consideration, and which may only be satisfactorily and conveniently obtained from section, under strict asepsis, of the excised tonsil. The most frequent growth found there is uniformly reported to be the different streptococci. Of course the pneumococcus, bacillus of influenza, and micrococcus catarrhalis are found, too, alone and in combination. (Julienne<sup>2</sup>; Richardson<sup>3</sup>.)

One is frequently confronted by a patient who has not been benefited by tonsillectomy, and the literature offers on investigation and careful thought much unimpressive evidence condemning tonsillectomy. Let us criticise the faulty methods of study and of operative procedure, rather than the operation itself, properly carried out after careful study. Ninety-five per cent of my patients are referred to me from other departments of my own group, and that after their cases have been worked up. Our internist, Dr. Paul Whitaker, sends in an adult with a request for an opinion, or Dr. Mangum, of the pediatric service, desires an opinion on a child. When these patients come to me, they bring all the data obtained in other departments, and by the co-operation of these departments, as well as the others, I am enabled to determine reasonably what to expect. We could only expect a patient to complain bitterly of tonsillectomy with no improvement, and statistics to be confusing without study, when no one claims that a tonsillectomy will remove a secondary focus in the gall-bladder, the large bowel, or the ear. Sinus infection, which may or may not precede tonsillar infection, or infected dental roots which remain after tonsillectomy, are just as important as the focus in the tonsil. I can hardly agree with any one who emphasizes the tonsil as a focus, while overlooking the possibility of a focal infection elsewhere—in the colon, for instance. At times a patient will come requesting tonsillectomy, and upon examination I find that he has a surgical tonsil. I refuse to do the operation—and urge any man to do likewise—for a throat man is not competent

to do diagnosis outside of his field, nor act as an internist. Lues, tuberculosis, diabetes, hemophilia, purpura are mentioned to induce caution. I can operate on that man—and he may or may not improve. It is guesswork. If he is an adult and I have a competent medical man's opinion and advice to proceed, I do so, giving the patient a definite outline as to what he may expect after I am through with him and turn him back to the medical man. I have seen in our pediatric service some six or eight enlarged thymus glands. These were being treated with roentgen-ray. I could only think how much sympathy an operator would be entitled to for an operative death, without preceding study with this condition in mind. There are cases reported of gangrene of the soft tissue of the throat and mouth following tonsillectomy—without any mention of general preliminary study directed toward diabetes, lues, or purpura. Very few cases of hemorrhage can be attributed to hemophilia, largely because true hemophilia does not occur at all in females, and is very rare in males. The simple test of coagulation time serves only to caution, and the capillary tube and finger puncture can not be rated as accurate. Only blood obtained from the veins with a sterile clean needle and syringe can be relied upon. Bleeding time is in many cases more important than coagulation time.

We consider it a dangerous procedure to give a general anesthetic to a patient who has much infection. Where there is a sinus infection or a dental infection we always attempt to clear that first. I heartily agree with Dr. Paul LaRoque when he says that he is skeptical about ether pneumonia. It appears reasonable to my mind to consider it teeth, tonsil, or sinus pneumonia, following ether.

Recently there has been considerable discussion of lung abscess following tonsillectomy. Dr. Gabriel Tucker and others of Chevelier Jackson's clinic have sounded warnings in pointing out this possibility. At present we do not know the exact percentage, but with the few cases which have been reported for consideration, we may well concern ourselves with this possibility, not only in operations done in the mouth, nose, and throat under local anesthesia, but under all general anesthetics as well. A competent bronchoscopist,

working in conjunction with the internist and the x-ray man, is imperatively necessary, for the safe handling of these cases. Many require the assistance of the surgeon in addition. Contrary to popular belief, lung abscess following tonsillectomy does not necessarily mean aspiration. There is evidence of the route of infection from the tonsil fossa to the lung by way of the blood and lymph streams. This was ably pointed out by Drs. Richardson and Federholf in the last issue of *Otolaryngology*. Dr. Nesbit offers convincing proof of the possibility of lung abscess following a tonsillectomy, when enough local anesthetic is used to destroy the bronchial reflex. Therefore, we come to the conclusion that in doing even a local tonsillectomy it is wise to do as clean surgery as possible, with a minimum of trauma to prevent the embolic process, and to use the minimum amount of local anesthetic, so as to prevent complete anesthesia of the muscles involved in swallowing.

Our method of procedure in the case of a surgical tonsil consists of a clean careful dissection with a pierce knife and a tying snare, under local anesthesia in adults. We never use a preliminary injection of morphine and atropine unless the patient is very nervous and gags easily. Then we give a hypodermic and allow the patient to lie down. Otherwise, in 98 per cent of our cases the operation is done with the patient sitting up. Using 1 per cent procaine with a few drops of adrenaline as anesthetic. We attempt to do a quick dissection, and then secure hemostasis after the tonsil is cut. For children we use ether, a modified sluder technic, with the daniels instrument. This is almost a bloodless procedure, if the instrument is left on for three minutes, as Dr. Daniels recommends. The adenotome is used for adenoids, and the ordinary curette is employed afterwards to remove shreds—very carefully, as too much force with this or similar instruments may cause considerable trauma.

I have used diathermy in a few cases with hypertension, under local anesthesia. It is undoubtedly a procedure requiring several sittings, just as uncomfortable for the patient at the time on account of the prolonged contact of the tongue depressor causing gagging, and in all cases, in spite of magnesium sulphate gargles, the sore throat was much more

marked than in any cases which we dissect. Diathermy will destroy the tonsil or other tissue: so will a hot iron; but I can well see the difficulty that different men experience in doing a complete dessication at one time. I feel sure that this procedure has no advantage over careful dissection, and the convalescence is more uncomfortable.

X-ray undoubtedly has its advantages, but can hardly supplant surgery. I have a patient now for whom I have advised x-ray for neuritis. Because of her age, and on account of a very sensitive throat and mouth, I consider x-ray the best method in her case.

Nothing short of a complete tonsillectomy is ever considered in our service. Review of 364 tonsillectomies in my service reveal 29 who had had previous tonsillotomy, the operation practiced some years ago. Tonsillotomy, or partial destruction of the tonsil, leaves the deep portions of the crypts where the infection resides. While it does no particular harm, it yields little benefit. In our experience clean and total removal is easily accomplished with the technic I learned from Dr. T. B. Henderson—using the small pierce knife in all local cases. Once the knife is pushed through the plica into the space behind the capsule, it is the simplest procedure I have seen. Two motions, one upward along the posterior border of the anterior pillar, then one downward along the anterior border of the posterior pillar, leave the tonsil freely dissected and readily removable in its entirety with the snare. We never have more than two instruments in the mouth at one time, and that for only a few moments. Adhesions when encountered are invariably separated with the fingers, according to the technic of Dr. Richardson.

Children, especially those under 8 years of age, comprise the group in which we find the most recurrences. I have had 21 children in my service who had been previously operated upon elsewhere for complete removal, showing a regrowth of large infected tonsils. It is our belief that unless the capsule is removed along with its lymphoid contents recurrence will be the rule in children. On the other hand a small amount of adult tonsil tissue left in may retrogress and cause no further trouble, provided that all infected crypts be in the removed portion.

After tonsillectomy in both children and adults we order a general diet within eight hours, using powdered aspirin 30 minutes before meals. Ninety-eight per cent of our patients will and do eat with the assistance of the aspirin, thereby preventing loss of weight and a general malaise due to diet deficiency and mild acidosis.

Our patients are never allowed to leave the operating room until both fossae are entirely dry. No slight oozing is ever countenanced. Veins bleeding are sought out and crushed, arteries are clamped and the hemostat left on for from 3 to 5 minutes. This is sufficient in 99 per cent of the cases. Occasionally a ligature is placed around a bleeding point.

The number of post-operative hemorrhages in the 364 cases was eight. Most of these were within 4 hours after the operation. None were serious, but in one very troublesome case there was oozing for 8 days. The others were controlled by placing a hemostat, or sponges in the fossae to be held there by the pillars.

#### CONCLUSIONS

1. It is a mistake to either condemn or exonerate a tonsil from visual inspection alone. Passing as innocent a very small tonsil, which may be seen only when the pillar is retracted, but which contains a crypt harboring virulent

bacteria, may result fatally, or allow a patient to pass from a curable condition into a chronic invalidism.

2. No tonsil should be attacked, with a promise of improvement to the patient, without a complete physical survey. To do so brings discredit to tonsil surgery, and is not patient protection.

3. The possibility of lung abscess must be borne in mind when doing tonsil surgery, with either local or general anesthetics.

4. No oto-laryngologist is competent to handle the question alone. The internist and the pediatrician are indispensable for proper diagnosis and treatment, and their co-operation is good patient assurance, as well as insurance.

5. Tonsillectomy is an operative procedure entitled to be classed as a major operation, and every patient should be safeguarded by the provision of the best equipment, nursing care, etc., preferably in a well-equipped hospital.

#### BIBLIOGRAPHY

1. Barnes, Harry A.: The Tonsils. published by C. V. Mosby, 1923.
2. Julienelle, Louis A.: A Bacteriologic Study of Extirpated Tonsils, Journal of Laboratory and Clinical Medicine, July, 1924.
3. Richardson, Charles W.: Cultures from Tonsils, Archives of Otolaryngology, 1926.

## PRURITUS ANI

W. W. CRAVEN, M.D., Charlotte, N. C.

Some consider this a distinct disease while others regard it as merely a symptom of other troubles. Van Hurlinglin says it is a functional cutaneous disease manifesting itself solely by the sensation of itching. Crocker says it is a functional defect of innervation in which itching is the only direct symptom. His language is somewhat evasive, but he evidently regards the trouble as a separate entity. Jackson regards it as a functional neurosis of the skin.

Pruritus and is met chiefly in middle life, yet the extremes of life are not exempt. Men are affected more often than women and at ages between 30 and 50 principally; when seen in childhood thread worms are more

often the cause. All races are subject to this tormenting ailment and climatic conditions play small part in the etiology or treatment. Obese persons of sedentary habits are favorable subjects. Blondes are said to be more liable owing to a supposedly more delicate cutaneous covering.

Pruritus is occasionally associated with a neurosis. The term *pruritus ani* has often served as a cloak for professional ignorance. In many cases local congestion and pathological discharges represent underlying causes since practically all rectal ailments are attended by one or both of these conditions. Hemorrhoids, fissures, fistulae, proctitis, ulceration, polypi, cancer and stricture are ex-

citing causes because of their accompanying congestion and irritating discharges. Constipation owing to its accompanying congestion in the lower bowel may be a predisposing cause. Thread worms, when a causative agent, act by the catarrhal inflammation that they institute rather than in a mechanical way by their movements. These worms should always be thought of when pruritus ani is encountered in childhood.

Robust persons are more prone to the affection than those who are thin and anemic, barring those of the latter class who suffer from diabetes, Bright's disease or rheumatism and certain other constitutional diseases. The opulent, because they are better able to lead a sedentary life and enjoy highly seasoned foods and alcoholic beverages are more liable than are the poorer classes. Too much economy in the matter of soap and water has a very important bearing on the number of cases and the outlook as to cure in any case.

Ailments involving the digestive apparatus are more potent as a cause of pruritus ani than are diabetes, rheumatism or Bright's according to some observers. Of all constitutional causes, intestinal fermentation with its accompanying flatulence, constipation and catarrhal inflammation, is by far the most important. (Cooke.) Certain articles of food, as shell fish and strawberries have an influence as exciting causes. Failure to recognize a constitutional cause as the primary factor has led to the conclusion that certain cases are incurable. In exceptional cases the trouble has a reflex origin. In such cases the genito-urinary organs are at fault and the condition giving rise to the reflex impression is chronic in character. Here we must look for urethral stricture, enlarged prostate, seminal vesiculitis and allied troubles. In females long standing pathological conditions of the vulva, vagina or uterus should be looked for. Tuttle says that gall-stones are causative of pruritus ani because of the congestion of the portal vein and its radicals occasioned by interference with hepatic function.

The cutaneous evidence in pruritus ani referred to as characteristic is due to trauma from finger nails. Typical local conditions are rarely absent in cases of long standing although the form and extent may vary within wide limits. It may consist of a narrow zone

of thickened and white integument encircling the anus, the anemic appearance being due to loss of normal pigment. Again the tissues affected may include the whole perineum, scrotum or vulva and reach well out over the buttocks and sacrum. Patients complain mostly of itching along the perineal raphe and post-anal furrow. At times the whole area presents a most excoriated appearance resembling certain forms of eczema. Perhaps in the whole field of proctology this is the only ailment in which a trustworthy diagnosis may be founded solely on the statements of the patient. Many patients are extremely nervous, but this is usually due to lack of rest and sleep on account of the intolerable itching that often drives the patient to the verge of dementia.

In rare instances the trouble has been induced by foreign bodies lodging in the rectum. Heat from violent exercise that induces profuse perspiration may in those of uncleanly habits induce pruritus ani. Rubbing of clothing, pederasty and application of rancid ointments have also been productive of this itching scourge. In these cases removal of the cause is followed fairly promptly with cure. The etiology of many cases remains obscure in spite of the most painstaking research. No one can point with assurance at any single cause that brings on a series of cases. A mistake that is often made in connection with the treatment is the mistaking of secondary changes in the skin either for the affection itself or at least for the cause of it. Again the mistake is made of blaming just any pathological condition that might happen to be present on examination to be the cause of the pruritus. Infectious ano-rectal, vaginal, uterine or urethral discharges, cryptitis, papillitis or hairs caught in anus may lead to pruritus. Certain medicinal and chemical causes may be mentioned—quinine, arsenic, belladonna and iodides are said at times to cause itching localized in the ano-rectal region as well as over the entire body.

Pruritus has followed operations that resulted in an abundance of scar tissue that entangled sensory nerve terminals, also, those leaving pus-secreting wounds where the discharges come in contact with the integument.

It is surprising to note that in certain distressing cases of pruritus ani the integument is normal in appearance. The skin usually



varies much in appearance depending on cause, duration and degree of accompanying inflammation. Often there is considerable excoriation due to the scratching and aided by the irritating discharge that continually bathes the affected surface. In such cases the skin is moist over large areas. There may be a thin discharge that exudes from the skin while the anal canal remains dry. The discharges most often responsible for the pruritus are from a catarrhal or specific coloproctitis. These discharges perpetuate the itching until the underlying causes have been removed.

Occasionally pruritus accompanies the atrophic or dry proctitis, where the skin is white and anemic, the mucosa being friable and cracking easily on distension. More often, however, there is an existing moist condition, the secretions, being allowed to remain, become acrid and set up a dermatitis with its subsequent inflammatory changes in and beneath the integument. Active inflammation in anal tissues is apt to be due to fistula, fissure or abscess.

In typical cases of pruritus ani there is at first slight congestion with redness from scratching or the discharges. Gradually the inflammation becomes subacute or chronic and the skin becomes thickened and thrown into radiating folds with crevices between them. The skin assumes a whitish glistening appearance when the irritation has been kept up for months or years. Finally it is thick, leathery and parchment-like, and is referred to as "elephant skin." Under such conditions the itching is well-nigh unbearable and scratching only traumatizes without giving relief. This advanced process involves both skin and underlying structures and through increase of connective tissue leads to an atrophic condition. In this process there is ensnaring of sensory nerves with constriction of capillaries. There is a progressive fibrosis mainly affecting nerve terminals and capillaries, some of which are destroyed through compression. These entangled nerve terminals are hypersensitive and itch from slight provocation. This thickened whitish area may extend entirely around the anus and may even reach the scrotum or vagina. Generally, as before stated, the itching is most intense along the perineal raphe and anal folds which stand out like whitened raised ridges, the

blanched appearance being from desquamation due to scratching and impairment of circulation along with absorption of normal pigment. In aggravated cases the mucosa is thickened and fissured and even the external sphincter may be involved, becoming irritated and hypertrophied.

The harassing and intractable itching is at times accompanied by considerable pain due to laceration of tissue by finger nails, or other objects used. This itching like other kinds of itching is worse on retiring. Some patients state that acute pain is preferable to the suffering incident to this itching which at times has driven patients to insanity and suicide. Patients literally tear at themselves though they know that soon they must pay by even greater suffering. Rough instruments, wire hair brushes, etc., are used at times.

Unfortunately there is no routine method of treatment in these cases since each case is a law unto itself. Some ask for temporary relief, not being willing to undergo the necessary amount of inconvenience for a cure. Most such patients have been treated a great deal before consulting a proctologist and are familiar with the drugs that give most relief. From a curative standpoint pruritus ani is undoubtedly the most difficult condition with which a proctologist has to deal. Sight must not be lost of the possibility of some constitutional disease such as diabetes or Bright's. Treatment directed towards constitutional causes usually fails unless reinforced by topical application or local operation.

A method must be devised for preventing irritating discharges coming in contact with the skin of the anal region. Operate first on hemorrhoids, fistulae, fissures, hypertrophied papillae, etc., that cause the irritating secretions. The cause of any proctitis or coloproctitis must be removed if it can be discovered and is amenable to treatment. Medicated recto-colonic irrigations lessen congestion, heal raw surfaces and remove irritating discharges and thus diminish the itching. Irrigations of silver nitrate, five grains to the quart of warm water, do good when ulcerative colitis is an associated condition. Discharges may be prevented from coming in contact with the integument by having the patient wear a small piece of cotton over the anus, and applying a bland dusting powder

to the surrounding skin. Irrigating the colon with ichthylol and glycerine, 1 to 1000, immediately after stool removes irritating discharges, mitigates itching and heals raw surfaces. When the colon and rectum are the seat of a catarrhal or specific colo-proctitis complicated by ulceration and a profuse discharge of mucus, blood, pus and other debris, good results are obtained by irrigating twice daily with balsam peru 1 per cent, permanganate of potassium 1 to 4000, argyrol 4 per cent, sodium bichlorate and fluid extract of krameria in dilute solutions. Cleanliness, along with the colonic irrigations is most essential, keeping the skin dry, regulating diet by leaving off highly seasoned foods and preventing constipation. Building up the system with tonics is recommended by authorities.

The buttocks and perianal region should be thoroughly cleansed three times daily, using castile or green soap along with plenty of hot water. Lime water is soothing and the sitz bath may be used except when eczema is a factor. To avoid irritating the affected surface, cotton soaked with oil may be used instead of paper. Coating the skin with warm mixture of bees-wax and mutton tallow is recommended as a protecting agent against discharges. Phenol applied in ointment or liquid solution soothes itching and is to be thought of. Some patients should wear gloves at night and thus keep from traumatizing

themselves while asleep. An emulsion of bismuth or aristol in cotton seed oil is beneficial in healing some of the lesions that cause pruritus ani.

Tomatoes, strawberries and certain shell fish—lobsters and crabs—should be struck off the diet list. As local measures, ointments should be avoided when possible since they forestall the proper cleansing of the integument. Violent exercise is not best since increased heat and irritation provoke itching. We use in the anemic individuals iron, arsenic and strychnine in proper dosage. Opiates to induce sleep must be used guardedly of course since these patients will take on the addiction most readily. In some cases suppositories with belladonna and cocaine are urgently needed. Epsom salts in saturated solution used as a stupe is good.

Hot packs of lead and opium solution to perineum or simply from hot water often enables a person to get some rest and sleep. As curative agents of the local condition tinct. green soap followed by grain alcohol locally is best. Use pure grain alcohol since the medicated article has irritating properties. Dilating sphincters gives some relief. Ball's operation, which is done by making lengthy incisions on each side of the anus, nerve connections being destroyed by dissections of the skin from underlying structures, gives temporary relief at times.

### Ichthylol Internally in Diabetes, Erysipelas and Pellagra

B. W. Page, M.D., Trenton, N. C.

One to six a day of the two-grain enteric pills (Parke Davis & Co.) or similar doses of the drug in water with aromatics has controlled thirty cases of diabetes and promises to be a strong adjunct, if not a superior, to insulin as an ultimate cure.

Four to ten grains of ichthylol every four hours has cured fifteen cases of erysipelas—the fever abating in six to twelve hours.

After using ichthylol in 350 cases of pellagra, I regard all other treatments combined, inferior to this one medicine. In several cases arsenic, luminal and symptomatic treatment should be added.

### FANTASTIC NOTIONS FROM INDIA

From *The Journal of Ayurveda*, May (Calcutta) *Popularity of Chinese Medicine in U. S. A.* The same paper (Young East of Tokyo) further adds that *Chinese Medicine is gaining in popularity on the Pacific coast of America.* A United Press correspondent recently describes it as follows:

"Here on the Pacific coast Chinese medicine is spreading like a new religion. (Will any enterprising Ayurvedist start for that part of America to push Ayurvedic medicine, as the late Swami Vivekananda did in the sphere of Religion? It will be a fit reply to Miss Mayo's Mother India.) New medical buildings, springing up in every city of the West, accommodate Americans, who are paying hundreds of thousands of dollars for medicine China is supposed to be discarding. *Patients are flocking to these new places in such numbers that they must make appointments in advance with some of them . . . . .* Several herbalists have been compelled to seek larger quarters." Will our rulers take note of the fact?

## PRESIDENT'S PAGE

*Tri-State Medical Association of the Carolinas and Virginia*

*Jas. K. Hall*

Lately I was furnished the prospectus of a new dictionary of the English language by the *Oxford University Press*. The work on the twenty volumes has been in progress since 1884, and during that long period of time a large group of learned people have been devoting all of their energy to the study of the meaning of most of the words in the English language. It has been a stupendous undertaking, but we are told that no such dictionary of our language has ever before been presented to the English-speaking peoples. A word, like a living thing, has its birth, its ancestry, its life, sometimes the word dies; almost always a word has a variety of shades of meaning, and not infrequently one word may have different meanings. It would seem to be true that the process of evolution is at work in the language-world in as lively fashion as in the domain of living things. Perhaps words themselves are living things. Certainly it is true that many Greek words, for instance, enjoy parenthood, and give to us many of the words in common use amongst us today. And just as the young in the animal kingdom often bears little resemblance to the fully grown adult so the infant word may bear little resemblance in form and in meaning to the later, fully grown, century-old word. Many of our old words are taking on a different shade of meaning today simply because of the influence on our language of mechanical devices. The word *time* does not mean to us at all that long-drawn-out state known to our ancestors. Many factors in our lives, most of them mechanical, have brought about changes in our conception of what time means. Time now means largely that period in which a body can be transferred from one place to another place. The object to be transferred may be material matter, it may be sound, or it may be a thought process. But regardless of what may be involved in the transfer such a degree of speed is possible as would have seemed utterly impossible to our ancestors. And just as hours have been reduced to seconds, in like manner in the domain of space miles

have been brought down to inches. Time and distance are not abolishable, but the effect of many of modern man's contrivances upon them is minimizing. Places once far distant now seem to be near at hand. The engine and the electric current have had such an influence. And the spread of scientific knowledge amongst people generally has brought about changes in the meaning of ordinary words. Cleanliness once implied freedom from obvious dirt. But in the domain of medicine the word cleanliness suggests the absence of germs, without particular reference to other forms of matter. The term feeble-mindedness in a remote rural community may today mean one thing—a condition scarcely recognized—but in a highly organized industrial community the term implies practically the inability to stand alone economically. The hills, the streams, the trees, the houses, even the individuals and the intellects that seemed to loom so overwhelmingly large in our childhood become relatively small and insignificant as our experiences increase. And illness—disease—sickness—what changes in our attitude towards that state have taken place in late years! The time was, certainly in rural communities, when sickness in a neighboring family aroused keen sympathy and the desire to be helpful in every conceivable capacity. The neighborhood was profoundly stirred by every case of serious sickness. In the country districts, at least, the individual even in dire poverty had medical attention. The doctor felt it his duty to give his services, and the neighbors supplied food and such nursing care as they were competent to give. But even in the country today that attitude of mind is passing. An attack of illness now brings up thought of money. Caring for sick people has become a business. And that number of hospitals, there are more nurses, and druggists and hospitals. The sick person, either poor or rich, is properly cared for—the poor in the charity wards of a hospital, the rich in the private rooms of a hospital. But those in the intermediate economic

stage—neither poor nor rich—moderate wage earnings—are overwhelmed by serious and long-drawn-out sickness. They are unwilling to accept charity and unable for long periods to engage nurses and doctors. Every such family lives in modified terror of the unbearable expense of a long illness, and health insurance companies live largely on that fear. Medical and nursing skill are getting further and further out of reach of all such people. There is perhaps a constant increase in the number of hospitals, there are more nurses, there are more doctors, but nursing and medi-

cal attention are becoming economically more and more impossible for people in moderate circumstances. What is the matter? What can be done about it? The thoughts suggested by the word sickness have undergone a radical change within a generation. Must the people rely on the great so-called philanthropic foundations, built up often by economic piracy and political debauchery, for their nursing and medical service? Should not this matter be fully and frankly discussed by some competent authority at the next meeting of the Tri-State?





## PRESIDENT'S PAGE\*

Medical Society of the State of North Carolina

*Thurman D. Kitchen*

"It is science now but it was mystery then." In this succinct sentence does Dr. Theodore H. Allen begin a treatise on the history of Medicine. He adds: "Mystery overhung the thinkers of antiquity and nowhere did this element of magic and of wonder have a stronger hold than in the strange humors of disease, for which they could find none other explanation than that they were punishments inflicted by gods or demons." So long as medicine was clouded over with mystery such as this, its votaries, the priest-physicians, acknowledging themselves to be mere tools of the gods, acting as propitiatory agents to appease these unseen and easily angered deities, it was individualistic in the extreme, and its practice was attended by the strictest secrecy. Mystery appealed to the untutored minds and blind faith was essential. The incantations at the bedside, the amulets worn about the neck, the piercing with long needles to release the evil spirits causing the disturbance within, the lurid custom of decorating the sickroom in red to cure smallpox—these and an endless category of other meaningless and often cruel practices were inflicted on a gullible populace, and not, we blush to remember, many hundred years ago."

But when Medicine evolved from mystery to science secrecy was not only unnecessary but undesirable. In its new estate it had a dignity, an integrity, which could endure without flinching the fierce light beat upon it by inquiring minds. Hippocrates, called the Father of Medicine, says in this early period: "The physician must know what his predecessors have known if he does not wish to deceive both himself and others." With Harvey's discovery of the circulation of the blood which marked the beginning of rational medicine and Pasteur's discoveries laying the foundation of modern medicine, the emphasis has continued to shift from the individual to the group until today Medicine in its broadest sense is a highly co-operative undertaking. "The sciences gain by mutual support," writes Pasteur in a paper read before the French

Academy of Science. Harvey writes, "If any use or benefit . . . should accrue to my labors, it will, perhaps, be allowed that I have not lived idly, and as the old man in the comedy says:

'For never yet has anyone attained  
To such perfection, but that time, and place,  
And use, have brought addition to his knowledge;  
Or made correction, or admonished him  
That he was ignorant of much which he  
Had thought he knew; or led him to reject  
What he had once esteemed of highest price.'

Since Medicine is largely the application of the principles of Biology, Physics, and Chemistry, there must at the very outset be co-operation between these branches. The various departments of Medicine and Surgery are not separate entities but are units of the same organism. Each branch or specialty gradually fades into others until there comes a twilight zone, so to speak, where it is difficult to determine at what point one ends and the other begins. Co-operation, then, is essential.

The private physician and the public health official must work together for the common weal. Again, there must be co-operation between municipal, county, state, and national health departments. Dr. Homer Folks, secretary of the State Charities Aid Association of New York, and a member of the Public Health Council of New York State, estimates in a report to the International Conference of Social Work that illness costs the people of the United States \$15,000,000,000 yearly, yet the country is spending only about \$76,000,000 a year for the prevention of illness. Surely this is a challenge to our profession. And finally, the development of group practice or clinic medicine is the inevitable outgrowth of this necessity of co-operation in order to achieve the most satisfactory results. No one man can now master all the fields of medicine, but by group practice, the work is differentiated according to the principle of division of labor and thus the patient reaps the benefit of a specialist in each field. Specialization is the natural outgrowth of prog-

ress. A hundred years ago the householder had to be jack of all trades, with a general knowledge at least of spinning, weaving, candle-making, blacksmithing, forestry, agriculture, carpentry—I could name a dozen or more subjects with which it was necessary for him to be conversant. Now these things are for the most part done for him and he bends his energies toward providing for his family's needs by carrying on along some special line for which he has been trained. It is the same in our profession: In olden times the family physician had to be ready to minister to all the ills that flesh is heir to. Now the enlarged field and increased demand necessitates a division of labor for the purpose of concentration; without this division of labor advances in medicine could not be made. All recognize the advantages of specialization, such as heightened efficiency—the development of precision and rapidity in the limited field—which makes possible more satisfactory results. And finally, specialization favors the distribution of professional labor in accordance with the natural endowments and varied opportunities of the physician. But this makes co-operation even more necessary. We are reminded that co-operation between specialist, consultant, and general physician is worthwhile if for no other reason than that it will prevent us from “failing to see the wood for looking at the trees.”

But since we are human, this modern co-operative system of group practice — many small groups working within the large group — cannot function without friction at various points. The more the co-operation, the more are the possible points of friction. The very

fact that our machinery is delicately poised and highly sensitized renders this danger more acute. The final test of the greatness of our profession and the strength of its members is the ability to submerge minor conflicts and not allow them to endanger the real program. The field of medicine is so generous in its benefits to mankind and the necessity to extend medical knowledge through research is so important; the raising of the standard of medical education and increasing the individual and collective efficiency of doctors concerning problems of public health, prevention and cure of disease, the prolongation of life and the making of life happier and fuller—all of these are so essential that we must be above petty temptations which would interfere with the highest motives; we must submerge our individual ambition in order that modern medicine may advance to claim its rightful heritage as the most altruistic and greatest co-operative undertaking of any age.

The results to be obtained by general and genuine co-operation all along the line so far outweigh any individual and temporary advantage, that no man worthy of the prestige and tradition of our profession can allow minor conflicts to slow the machinery. Again allow me to refer to the Father of Medicine. Of him it was said: “Hippocrates was above all else a practitioner who desired chiefly not to impose upon his fellow-men with showy discoveries and theories, but to assist them to the utmost of his power. And this he did. Hence his words of immemorial value: ‘Where is love for art, there is also love toward man’.”



**OFFICERS**
**Medical Society of the State of  
North Carolina  
1928-1929**


---

<i>President</i>	Dr. Thurman D. Kitchin	Wake Forest
<i>First Vice-President</i>	*Dr. W. L. Dunn	Asheville
<i>Second Vice-President</i>	Dr. D. T. Tayloe, jr.	Washington
<i>Third Vice-President</i>	Dr. W. D. James	Hamlet
<i>Secretary-Treasurer</i>	Dr. L. B. McBrayer	Southern Pines

**COUNCILORS**

<i>First District</i>	Dr. H. D. Walker	Elizabeth City
<i>Second District</i>	Dr. Grady G. Dixon	Ayden
<i>Third District</i>	Dr. J. B. Cranmer	Wilmington
<i>Fourth District</i>	Dr. W. H. Smith	Goldsboro
<i>Fifth District</i>	Dr. E. A. Livingston	Gibson
<i>Sixth District</i>	Dr. V. M. Hicks	Raleigh
<i>Seventh District</i>	Dr. T. C. Bost	Charlotte
<i>Eighth District</i>	Dr. R. B. Davis	Greensboro
<i>Ninth District</i>	Dr. M. R. Adams	Statesville
<i>Tenth District</i>	Dr. J. F. Abel	Waynesville
<i>Chairman Committee on Arrangements</i>	Dr. C. A. Julian	Greensboro
*Deceased		

**OFFICERS**
**Tri-State Medical Association of  
the Carolinas and Virginia  
1928-1929**


---

*President*—Dr. J. K. Hall ..... Richmond, Va.

*Vice-Presidents:*

Dr. Oren Moore	Charlotte, N. C.
Dr. R. Finley Gayle, jr.	Richmond, Va.
Dr. DeWitt Kluttz	Greenville, S. C.

*Secretary-Treasurer:*

Dr. J. M. Northington	Charlotte, N. C.
-----------------------	------------------

**EXECUTIVE COUNCIL****ONE YEAR TERM**

Dr. Warren T. Vaughan	Richmond, Va.
Dr. M. H. Wyman	Columbia, S. C.
Dr. L. G. Beall	Black Mountain, N. C.

**TWO YEAR TERM**

Dr. E. S. Boice	Rocky Mount, N. C.
Dr. F. B. Johnson	Charleston, S. C.
Dr. R. L. Payne	Norfolk, Va.

**THREE YEAR TERM**

Dr. J. Bolling Jones	Petersburg, Va.
Dr. D. A. Garrison	Gastonia, N. C.
Dr. W. R. Wallace	Chester, S. C.

# Southern Medicine and Surgery

Official Organ of

) Tri-State Medical Association of the Carolinas and Virginia  
) Medical Society of the State of North Carolina

JAMES M. NORTINGTON, M.D.  
*Editor*

## Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	<i>Human Behavior</i>
FRANK HOWARD RICHARDSON, M.D.	Black Mountain, N. C.	<i>Pediatrics</i>
W. M. ROBEY, D.D.S.	Charlotte, N. C.	<i>Dentistry</i>
J. P. MATHESON, M.D.		
H. L. SLOAN, M.D.	Charlotte, N. C.	<i>Diseases of the Eye, Ear, Nose and Throat</i>
C. N. PEELER, M.D.		
F. E. MOTLEY, M.D.		
THE BARRET LABORATORIES		
O. L. MILLER, M.D.	Charlotte, N. C.	<i>Laboratories</i>
HAMILTON W. MCKAY, M.D.	Gastonia, N. C.	<i>Orthopedic Surgery</i>
JOHN D. MACRAE, M.D.	Charlotte, N. C.	<i>Urology</i>
JOSEPH A. ELLIOTT, M.D.	Asheville, N. C.	<i>Radiology</i>
PAUL H. RINGER, M.D.	Charlotte, N. C.	<i>Dermatology</i>
GEO. H. BUNCH, M.D.	Asheville, N. C.	<i>Internal Medicine</i>
FEDERICK R. TAYLOR, M.D.	Columbia, S. C.	<i>Surgery</i>
HENRY J. LANGSTON, M.D.	High Point, N. C.	<i>Periodic Examinations</i>
CHAS. R. ROBINS, M.D.	Danville, Va.	<i>Obstetrics</i>
OLIN B. CHAMBERLAIN, M.D.	Richmond, Va.	<i>Gynecology</i>
LOUIS L. WILLIAMS, M.D.	Charleston, S. C.	<i>Neurology</i>
	Richmond, Va.	<i>Public Health</i>

## THE PROBLEM OF THE COST OF MEDICAL CARE

All of us have seen a number of very diverse things given out at different times to be "the greatest thing in the world"; for instance,—health, a baby, character, love, or even life insurance. So we need not be astonished that the secretary of the American Medical Association indulges in the superlative thus:

"The one great outstanding problem before the medical profession today is that involved in the delivery of adequate, scientific medical service to all of the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life."

Of course, broadly considered, this takes in the whole aim and end of past, present and future, the education and practice of those who dedicate their lives to healing and must make a living out of the practice of their professions. All will agree that the problem is of importance sufficient to merit intensive study on an elaborate scale.

A year ago there was organized The Committee on the Cost of Medical Care, made

up of physicians, economists and "non-medical persons engaged in public health work." As now constituted, this committee includes: fourteen private practitioners of medicine, six men engaged in public health work, eight persons employed by various medical institutions and organizations, five economists, and nine persons prominently associated with public welfare enterprises. Dr. Lewellys F. Barker, of Baltimore, Dr. J. Shelton Horsley, of Richmond, Dr. Robert Wilson, of Charleston, and Dr. W. S. Rankin, of Charlotte—all good Tri-State men—are members of the committee.

The purpose of The Committee is to gain all the information possible on the cure and prevention of disease. It is hoped that the American Dental Association will enter into the investigation.

This journal is in hearty sympathy with the purposes of this movement. The agreement of its thought with that of The Committee, that we can not afford to go along as we are is evidenced by the passages quoted below. The first is quoted approvingly from the *Journal of the Michigan State Medical*



Society by the Chairman of The Committee.

The tendency of the day is that when any group of citizens cannot afford to purchase certain privileges, services or needed comforts the demand goes forth that the state supply to them that which they cannot now obtain. The state and county usually comply with the pressing demand of its citizens. We are fearful that we are on the eve of such a demand from the people. What are you going to do about it?

The second is the conclusion of an editorial on "The Cost of Hospitalization" in *Southern Medicine and Surgery*, February, 1926:

If patients be encouraged in the idea that they must be in hospitals and have graduate nurses in every case of illness, and these patients cannot pay for such accommodations, what is the next step? Some say hospitalization at the expense of the state!; and when the majority who cannot pay insist on going into a hospital and being nursed through every illness, with the state paying the bills, is anything more reasonable than to assume that there would follow the demand that a medical attendant, also paid by the state, be provided to supplant the private physician?

Undoubtedly many a patient's chance of recovery is materially lessened by worrying over the fact that his illness is costing him more each day than he can possibly make in a week when he is well and active; what more natural than that he should seek escape from this expense and worry by voting for the establishment and maintenance of a system of treatment for the sick at the public cost?

This is no attack on hospitals or nurses. It is written as much in the interest of private hospitals and private nurses as of private doctors; for all of us are dependent on the fees paid by private patients. If patients are taught that they must have, in every illness, the expensive accessories for cure which are needed only in exceptional instances, they will demand that the state supply them, since they cannot pay for these "necessities" themselves. Then would soon be brought to pass a condition in medical care analogous to that existing in education today, the overwhelming majority of hospitals being publicly owned and staffed by doctors on salaries, with a few privately owned hospitals and a few doctors in private practice for those whose attitude toward this public care for the sick would be the same that a few manifest toward the public school system today.

Hospitalization and graduate nursing are necessities at times, and then they are among the greatest boons of mankind. When they are indiscriminately ordered in order that the doctor may assemble his patients for his own convenience, that he may get the reputation among the nurses of "keeping the hospital full of patients," or for any reason other than reasonably meeting the needs of the patient's case, they are grievous burdens imposed on already overladen shoulders.

One of the most pressing needs of our time is that of reducing the cost of illness. We should apply ourselves to it diligently and rationally; discarding all such generalities as "getting the best for a patient" (which seldom means anything except *most expensive*), never advising a patient to enter a hospital for treatment or to employ a trained nurse unless we ourselves would do the same under the same circumstances; and, in the interest of those who must have such care, obtaining information from every available

source on economical hospital operation; and, finally, conferring with local bodies of graduate nurses as to means of meeting the nursing needs of the great majority of all patients, i. e., those unable to pay present charges.

Unless something effective is done along this line, many thoughtful persons conversant with the situation believe that a generation or two hence as large a proportion of the total of sick persons in the country will be in state-owned hospitals, attended by doctors on salary from the state, as is the proportion of children of school age who are enrolled in our public schools. In other words *State Medicine* will have arrived.

The Committee has issued "Publication No. 1" which outlines its Five Year Program. This outline is comprehensive and approaches many features of the case in a strictly practical fashion. We are constrained to think, though, that it would be well to put in some correction of the figures which appear to be inserted as averages for surgical fees charged.

The program booklet cites a case of cancer in which the cost of treatment was \$6,000; and, as this was "in the next block to a man with a family of five earning \$200 per month," the idea is clearly conveyed that the cancer patient was a by no means wealthy person. Continuing the same story: "Around for a case of ruptured appendix, in addition to a surgeon's fee of \$500 (reduced from \$1,- the corner a girl had recently paid out \$1,075 000)."

A brochure from The Committee under the title "The One Great Outstanding Problem" carries this story:

An employee of a large corporation recently consulted a physician about some "rheumatic" pains. Examination of his teeth indicated that he was in immediate need of extensive dental work. When told what was required, he replied, "I can't afford to have it done."

The physician, knowing in a general way his economic condition, remonstrated, "Surely a man with a position like yours can afford to pay for this work, especially when you consider its importance to your health and efficiency."

"I could have afforded it a year ago," the patient answered, "but I can't now. A year ago, I had ten thousand dollars in cash and securities and thought I was pretty well off. Then my wife had to go into a hospital for a major operation, and before she was well recovered my mother found that she also needed an operation. When I got through paying for their hospital care, surgical and medical attendance, special nurses, laboratory examinations, anesthetics, ambulances and goodness knows what, I found that my ten thousand dollars had vanished and that I was heavily in debt."

"Unless you can find a dentist," he concluded, "who will do the job for nothing, I can't have it done."

Despite the fact that the very next suc-

ceeding line says, "The high cost of ill-health is not due to the fact that physicians as a group are being paid too much," we are concerned lest the sending out of the matters quoted in the few foregoing paragraphs do doctors a great injury. Six thousand dollars is a whole lot too much to charge for any illness when it must be paid (or owed) by a person at the \$200 per month level. One thousand dollars, or even half that amount, is five times an adequate surgical fee from a girl who "lives just around the corner" from the \$200 a month man. Certainly there must have been a peculiar conjunction of unfeeling doctors and an unresisting husband and son when \$10,000 was paid for two surgical operations, and the victim of these exactions left heavily in debt although enjoying a lucrative position.

Such may be illustrations of average practice in other sections; they do not happen in this part of the country. We have heard a good number of complaints of excessive charges for surgical services by doctors of medicine and of dentistry; but those paying the bills were well-to-do. With rare exceptions, our surgeons do not charge fees outrageously out of proportion to the ability of the patient to pay; and if they were to start the practice, our hard-headed citizenry would refuse to pay them, and, in so refusing be upheld by our courts.

As any one could foresee would happen, at least one newspaper with a large circulation has carried an editorial commenting lengthily on the story of the two operations costing \$5,000 each, the whole comment being postulated on the inference that this is an average charge. Nothing is more certain than that many others have done the same, or that the impression thereby created works a grave injustice to doctors, and inspires hostility to them.

We venture to suggest to The Committee the wisdom of gathering figures showing average surgical, medical and dental fees. These figures will show that the explanation for the statement that the cost of sickness bears too heavily on the man of average income lies elsewhere. With the statement all conversant with the subject agree, without agreeing at all that exorbitant professional fees are the rule.

The problem is a serious and complex one.

We think of it now very much as we did two years ago. We welcome the news that a committee which includes so much of talent and zeal is working on it. We enlist under its banner, and "for the duration of the emergency."

#### DEATHS FROM ANESTHETICS

We don't read about many deaths from anesthetics. We hear about a good many. Doubtless some of these we hear about are not due to anesthetics. Doubtless a good many deaths occur from anesthetics in which cases the proper cause is not ascribed—some errors being made ignorantly and some deliberately.

Our sympathy for the surgeon and anesthesiologist when a patient dies from an anesthetic is real, approaching in keenness that felt for the surviving parent, wife or husband. Although holding firmly to the belief that Medicine can best perform right out in the open, we do not feel disposed to attach any blame for failure to send in accounts of deaths from anesthetics for publication in medical journals. We believe it would be wisest to publish such reports and that it should be invariably done; but there are easily recognizable difficulties in the way of pioneers.

Accurate observation of the symptoms manifested, careful search of the history and examination reports for possible explanation, along with necropsy findings wherever these are permitted; all these, published for the warning of others, could not fail to reduce the loss of life from this cause. The number is not large, but one or two lives are well worth saving.

With a view to supplying information at second hand, to eke out the little on this subject any journal can get first hand, this journal is minded to pass on to its readers some abstract of each report of a death from an anesthetic which it runs across in its exchanges.

The following case report is taken from the *Long Island Medical Journal*:

#### ANESTHETIC DEATH

##### Case Report

From the service of Dr. William Duskee:  
Woman, 22 years, single, entered the hospital February 8, 1928, complaining of headache and weakness. She had gripe two weeks previously, and her hospital record showed, in brief, that she had a discharging left ear and a septic temperature

curve. On February 27 she was transferred to the otological service and a mastoid operation was performed. Just before the operation was finished she stopped breathing, while the pulse was fairly good. Artificial respiration was done on her for about six hours without any sign of spontaneous respiration, and the heart finally stopped.

The autopsy gave as cause of death—acute mastoiditis and thrombosis of the left lateral sinus, and showed little pathology outside of the local condition.

*Discussion by Dr. George Tong, anesthetist:*

This is one of the comparatively rare cases of primary failure of the respiratory center under anesthesia, probably due to some direct action on the center in the medulla. It might have been due to the toxemia, to an extension of the inflammatory process to the medulla or to an edema causing pressure on the center.

When the respiratory center commences to fail, there is very little that can be done. The patient was kept alive for 7 or 8 hours.

*Discussion by Dr. William Durkee:*

The patient had chronic middle ear disease for many years. The cavity was filled with cholesteatoma. A diagnosis of sinus thrombosis was made. I saw the patient about three hours before the operation. She did not answer questions very intelligently.

Immediately before the operation she still seemed drowsy, but she had had a hypo which might account for this. The anesthetist said she was not breathing—I kept working and she seemed to be a little better, and possibly a few minutes after that the anesthetist again told me she was not breathing.

We stopped working and took care of the patient without opening the sinus, and we gave all our attention to the patient. Everything was done to bring her back. All the stimulants that were thought of were given to her. Artificial respiration made her color good, the pulse stayed up well, but as soon as the artificial respiration was stopped there was no breathing. When we instituted the artificial respiration, she would make an effort to breathe. Someone suggested a pulmotor; the gas company was called and the pulmotor crew came and took charge of that end of the job. They used gas and carbon dioxide through a mask on the face, keeping up the artificial respiration all the time. They worked from 9 o'clock until midnight. The heart continued pretty well, but then steadily kept going down.

*Discussion by Dr. William W. Hala, pathologist:*

Our chairman has asked us to discuss this case particularly as regards the sudden death on the operating table. A careful consideration of the history of the patient as well as the ultimate pathological findings at autopsy perhaps suggest, but do not entirely explain the reason for the sudden demise.

In the first place this patient was a very obese woman. We know that such individuals are not particularly good cases for anesthesia. Secondly, she was very ill when operated upon, with a very severe intra-cranial lesion. In spite of the fact that the intern made a definite note of a discharging ear, medical attention was diverted to the genito-urinary tract. The patient gave a definite history of nocturia, but this must not be considered as an evidence of renal or lower urinary tract pathology. Furthermore cystoscopy, blood chemistry and urinalysis ruled out any genito-urinary lesions, and while the urine showed albumin, it was of febrile origin.

Discovery of the mastoid condition was finally made by Dr. Durkee, and it is highly probable that at the time there was thrombosis of the lateral sinuses. Moreover, the presence of a cholesteatoma in the affected ear materially complicated the pathol-

ogy. It is our humble opinion that the patient went to the operating table in a highly toxic state. The operation did not take long, nor was the total amount of ether excessive. Respiratory failure occurred suddenly, and unfortunately we cannot explain this on any anatomical grounds, either as a result of lesions in the respiratory tract or in the respiratory center of the bulb. The autopsy findings by Dr. Robillard fail to clear up the exact cause of the fatality. We have recourse only to an explanation which is more or less hypothetical. Pulmonary pathology being excluded, there is no doubt that cessation of respiration was due to failure of the respiratory center. Outside of actual trauma or other pathology of the medulla, failure of the respiratory center is occasioned by lack of sufficient air or the deleterious action of some toxin. We come to the conclusion that the sudden death in this case was due to toxic injury to the bulb, and that the death would have occurred even if no operation had been performed.

We do not offer any explanation of the cause of death, or any suggestion that the death could have been prevented.

The suggestion is made, though, that this report clearly shows that the possibility of the sudden cessation of breathing, in the course of an anesthesia, should be thought of in every case immediately before the administration is begun; restorative drugs, instruments and apparatus arranged in the order of their use in case of emergency; and that a mental rehearsal be gone through so that not a second will be lost.

The further suggestion is made that all deaths and near-deaths from anesthetics be reported in detail in medical journals.

#### SOME SUGGESTIONS FOR THE EXPERT WITNESS

Charles W. Fricke, LL.M., J.D., Los Angeles, Calif.,  
in *The Compend of Medicine and Surgery*,  
June, 1928

The expert's greatest weakness lies in the fact that he is called as an expert and is most reluctant to admit that he doesn't know all that is knowable about the subject to which he is called to testify, and all other allied subjects. All too often, when not certain of the answer, and rather than admit that he does not know or that he is not certain, the expert witness takes a chance and gives an answer, believing, or at least trusting, that he will get away with it. Sometimes he answers, not as he knows the fact to be, but as he believes it to be. The expert should not consent to be called to testify on a subject unless he really knows his subject. If questioned on a matter outside of that subject he should only make an answer that he feels



sure of and if he isn't sure, the best policy is to say so.

If a question is not intelligible, and questions asked by lawyers of experts are frequently so, don't try to answer but say you don't understand it and, if you can, give the reason.

Stop testifying after you have answered the question. To do otherwise may give the impression that you are anxious to testify for your side and are biased. Furthermore, the matter volunteered may open up a dangerous subject for cross-examination.

Don't evade or try to dodge the question. If you try it the only person you will fool is yourself. Answer the question even if it hurts.

In the court room, while the trial is going on, don't pop out of your seat and rush over to tell the counsel for your side what to do. It attracts attention from the matter before the court to the evident fact that you are partisan and very much interested.

Make sure of your facts. Ascertain whether what you are inclined to accept as facts are disputed or admitted. Distinguish between fact and inference.

When testifying, use language so simple that every juror can understand you. If you must use a technical term, explain it immediately, but don't use terms not generally understood unless it is absolutely necessary. The jurors are non-technical people and as such, inclined to resent anything which looks like putting on airs or assuming a superiority, especially when coupled with what they take as a claim of infallibility. Again, the use of technical terms will lead to request for definitions. Definitions given on the spur of the moment are difficult to give and quite likely to be inaccurate and subject to criticism. Also, be sure you don't use a technical term you can't spell. You may be asked to spell it.

When making an examination or otherwise acquiring knowledge of the cases, take notes; take detailed notes; take more notes than you will ever need. If possible, have a stenographer present to take notes for you. You know it's easier to have someone else work than to work yourself.

Avoid illustrations as much as possible. They may be double-edged swords. They may furnish the means of leading you away

from the main topic.

Stick to the main topic, the subject with reference to which you were called. The expert should, as nearly as possible, know all about the main topic. It is impossible for him to know all or even a great part of every other topic of his science or profession. One of the commonest devices for discrediting the expert is for the cross-examiner to lead him away from the main topic to other fields and cross-examine on a subject upon which he is not prepared. Sometimes the expert strays of his own accord or is led to do so by counsel calling him.

Remember that, so far as you are concerned, the trial is an examination of yourself as to your knowledge. Prepare for that examination. If possible read what has last and most recently been written by authorities on the subject in question but don't overlook discussion of that subject in your professional journals.

Ascertain who are to be the other experts who are expected to be called for the same side as that for which you are to be called. Obviously experts on the same side of the case are expected, by the jury at least, to agree. The position of the expert called on the same side with a man from whom he knows he will differ, or, worse still, a man whose knowledge is superficial and opinion unreliable, is obvious.

Make it a condition of your employment that you be given an ample opportunity to prepare for the trial. See that you are given ample time to examine the patient and as frequent opportunities to examine him as you yourself consider necessary. If you are ever called without the preparation you deem necessary, qualify your answers so that the court and jury may understand why you did not make findings which other experts in the same case may have made.

When on the witness stand, don't chew gum, put your hand before your mouth or hold it up to your face; don't twiddle your eyeglasses, play with your watch chain, or with the assortment of pencils and pens in your pocket. I have seen medical experts do everyone of the things I have mentioned. It is unnecessary to comment upon the effect on the jury.

Don't pose on the witness stand or try to act like some other expert whose manner on



the stand you have considered worthy of imitation. You may fool yourself into the idea that you are making a success of it, but courts and juries may think otherwise. Be natural.

The expert is called as a man having special knowledge to relate what facts he has learned as to the matter involving his special knowledge and to give his own personal and unbiased opinion on that matter. He must carefully guard against his being influenced, consciously or unconsciously, by the fact that a particular contestant has called him. He must satisfy himself as to the honesty and sincerity of the person who calls him and of the person in whose behalf he is called. He should be absolutely indifferent as to the ultimate outcome of the trial. His testimony when concluded should be a credit to his science and profession.

#### KOAN OGATA'S SCROLL

*Editor's Note.*—Koan Ogata was a Japanese physician who lived from 1812 to 1863. Perry's expedition, which opened Japan to the western world, reached Japan in 1853.

1. The physician lives not for himself but for others. This is the essence of his profession. Do not look for fame or profit. Work to save others though you lose yourself. Maintain life, restore the sick and ease the suffering of men. You have not other object.

2. Face to face with a patient, remember only that he is sick, not his station or his wealth. Compare the rich man's handful of gold with the poor man's tear of gratitude. Which will you have?

3. When practicing your art remember that the patient is the target, not the bow or arrow. Do not play with him. Think without prejudice; consider with narrowed eyes.

4. Besides being modern and erudite, learn how to win the confidence of your sick man through word and action. But let these be not superficial, casual or pretentious. Do not mouth deceptive and queer hypotheses.

5. At night think over the happenings of the day. Record your experiences and observations. Such benefit the patient and the world.

6. One deliberate examination and one visit are superior to many careless examinations and many visits. But do not refuse to make frequent calls on the ground that such de-

grade your dignity.

7. Even when the disease is incurable, understand the sufferings of your sick man and do your duty by trying to maintain his life. It is in human art. Try to prolong his life even though it be for but a moment. Do not tell him of the hopelessness of his state. Through your discretion in word and manner you will not let him guess the real situation.

8. Make the patient's illness cost him as little as possible. Of what use to save his life when you take away the means of its maintenance?

9. The physician must win the good will of the public. However skilful your science, however dignified your conduct, you cannot impart to advantage the good within you unless you hold the confidence of your people. You who are interested in life, who must listen to naked truth, who must hear the confession of shameful sin, need character and gentleness. Avoid gossip. Silence is better. Nor need I warn you against gambling, drunkenness, sexual excess and anxiety for fame.

10. Respect and love the colleagues of your profession. But, if impossible, at least be patient. Do not discuss other physicians. To narrate their shortcomings is the shame of the wise man; to talk of their defects is the business of the small. A moment's discussion of a single error may work perpetual injury to a reputation. Consider such consequences. Every physician has his own characteristic and his own methods. Do not judge lightly. Respect the older physician and endear the younger to you. Stress their better side and refuse to comment on their treatment, since you have not seen the patient.

11. A consultation should not include many—three at most. Select the right men. In conference, consider only the safety of the sick man and argue nothing else.

12. A patient may leave his physician to consult you. Do not be deceived. Hear the former physician's side. But where convinced that the treatment has been in error, it is against the code to be indifferent. Especially when critical, act, and with vigor.

These twelve mandates have I written and showed to a few, but mainly did I write them for my own guidance.

—*International Medicine Digest*, June, 1928.

## RECENT CHANGES IN OUR VIEWS CONCERNING DISEASES OF THE LUNGS

J. A. Myers, Ph. D., M.D., Minneapolis  
(Abstract of article in *Minnesota Medicine*, July)

Few fields of medicine have undergone more rapid changes in the last few decades than that pertaining to diseases of the chest. Auscultation has advanced greatly through the comparison of auscultatory findings with those of the x-ray and post-mortem examination. Much of great value is being done to discard insignificant auscultatory signs. We have learned that physical signs over the chest give us some information of what has occurred within the chest. They tell us very little of what is going on. In a fairly large percentage of persons the percussion note is slightly higher pitched over the right apex, tactile fremitus is increased, and whispered as well as spoken voice are definitely increased and the breath sounds are broncho-vesicular in character. For a long time it was held that tuberculosis more frequently exists in the right than in the left apex. Prior to the days of the x-ray there was no way of confirming the physical signs except at the post-mortem table, and this did not make it possible in many cases to actually visualize the condition until it was far advanced and existed in both lungs. It is questionable whether tuberculosis is any more common at the right than at the left apex.

We have learned to carefully inspect the chest for slight lagging since we know that when disease exists, even slight disease, the reflex protective mechanism may result in lagging of the movement of the chest wall. Often the diaphragm on the same side as the disease also lags, hence considerable evidence may be obtained from a study of the diaphragmatic shadow (Litten's sign). The same mechanism that brings about lagging of the chest accounts for spasticity of muscles over the surface of the chest when disease exists within. After the muscles have been in a state of contraction for a long period of time, atrophic changes occur and they seem flabby. The skin may also lose its subcutaneous fat. Therefore these facts aid us greatly in physical examinations.

We have learned that some of the auscultatory signs, such as slight changes in breath sounds, are far less important than we for-

merly believed them to be. By checking up with the laboratory and x-ray films, it has been possible to determine which of the auscultatory signs are really valuable. We know that whispered voice should be used in every case, since it gives valuable information concerning the condition of the lungs and the pleura.

Perhaps the most valuable contribution to our knowledge of auscultation is that of eliciting rales after the expiratory cough. One may listen carefully over a chest on normal or even deep breathing and elicit no rales whatsoever, but if the patient is asked to take a deep breath, exhale, and just at the end of exhalation, cough, then take a deep breath, rales may be distinctly heard toward the end of inspiration. This is unquestionably our most valuable physical sign in the diagnosis of pulmonary tuberculosis as well as certain other pulmonary diseases. Fine rales are usually due to pneumonia while moderately coarse rales more often are present in tuberculosis. Marginal rales have many times been mistaken for rales of disease. They are frequently heard over the lower axilla on either or both sides. At times they may also be heard above the clavicles when a subject has been employing shallow respiration and then takes deep breaths for the examination. After a few such breaths, however, these rales usually disappear.

Since the discovery of the tubercle bacillus perhaps nothing, except post-mortem examination, has contributed so much to our knowledge of chest conditions as the x-ray. In the beginning of x-ray development the pendulum swung too far in its favor, so far in fact that many physicians were willing to accept the roentgenologist's diagnosis and discard other valuable diagnostic procedures. A reaction later developed and the pendulum swung too far in the opposite direction. The x-ray examination must be regarded as a part of the general examination and as such I believe we are compelled to recognize it as second only to the finding of tubercle bacilli. Through the laboratory we have come to know that there are numerous non-pathogenic acid-fast bacilli which may be mistaken for tubercle bacilli. We know that in large laboratories specimens may be mislabelled and a positive report given to the wrong name. We know also that there are malingerers who submit

sputum from persons who they know are casting off large numbers of tubercle bacilli. We know that if a single sputum examination is found to be negative to tubercle bacilli it means absolutely nothing. Nor infrequently it is necessary to make large numbers of examinations. We know that the sputum is negative to tubercle bacilli in approximately two-thirds of the early cases of pulmonary tuberculosis. Women and children often will not expectorate. They swallow the sputum; therefore one has great difficulty in collecting a specimen sufficiently large for microscopic examination. In such cases a study of the fasting stomach contents or careful examination of the stool will often reveal tubercle bacilli. In the case of smaller children if mucus is present in the throat, one may secure enough for examination by using a tongue blade, causing the child to gag, and collect the sputum in this manner. If tubercle bacilli cannot be found by the usual microscopic examination plus the concentration methods, one should not give up but should inoculate laboratory animals such as the guinea pig. One should always seek for other pathogenic micro-organisms as well as tubercle bacilli. Not infrequently when one practices perseverance a diagnosis may be made through the laboratory examination which otherwise is extremely difficult or even impossible.

In tuberculosis, bronchoscopic examination usually is not justified; however, in non-tuberculous pulmonary conditions it is of tremendous help in diagnosis. Occasionally one finds a patient with cough and other annoying symptoms persisting over a considerable period of time, who has had the lungs examined by many physicians, all of whom were unable to find any evidence of disease. Bronchoscopic examination may reveal a small tumor mass extending into a bronchus or one of its ramifications, the treatment of which, if not malignant in character, relieves the patient of symptoms.

There can be no doubt that the use of iodized oils is of great help in the diagnosis of some cases, but since it cannot be eliminated as readily as opaque substances introduced into the gastro-intestinal tract, since it remains for days, weeks and sometimes months, thus rendering almost impossible further satisfactory examinations during this

time and since it apparently has caused definite harm in some cases, it should be used, at least until we know more about it, only in those cases in whom all other methods have failed us in arriving at a diagnosis.

We have learned that in childhood (between the second and third years and the eleventh and twelfth years) the tuberculosis picture is entirely different from that which we see earlier in life or that usually seen after the age of puberty. During this period of childhood the disease often involves only the lymph nodes; therefore it is a mistake to look for disease only in the lung, as in the adult. One may examine a child extremely carefully, find no evidence of disease in the lungs, when it is present in abundance in the tracheo-bronchial lymph nodes. In the examination for disease in these nodes, physical findings are of little avail. In such cases stereoscopic x-ray plates are indispensable. In the past these cases were overlooked unless the lymph nodes became extremely large. In other words, many cases that could have been benefited by treatment were not recognized.

When the von Pirquet (epidermal) and the Mantoux (intra-dermal) tests were announced, enthusiasm ran high and the pendulum swung too far. Many persons perfectly normal were placed on treatment for tuberculosis merely because they reacted positively to these tests. Then it was shown that the test was not indicative of *tuberculous disease* but only of *tuberculous infection*. It was then believed that everyone who had ever been infected with tubercle bacilli would react positively. A positive test in children less than one year of age was sufficient evidence to justify bad prognosis. Then it was believed that the test was of no value except in children. We have learned, however, that a positive cutaneous tuberculin test in a child under one year old by no means warrants a bad prognosis, unless the child has actually become diseased. No doubt many children of this age handle tuberculous infection well. Since we have learned that tuberculosis in the adult is not always the result of tuberculosis in childhood, that infection is not universal but that grown people may become infected, it is obvious that a cutaneous tuberculin test is not without value in adults. For example: a patient comes to a physician's office for a complete examination,

Among other things, the physician should determine not only whether tuberculous disease exists but also whether tuberculous infection exists. If infection is not present, the patient may return in six months for a periodic examination. He may then be showing mild symptoms although the examination reveals no evidence of disease. If a cutaneous tuberculin test is applied at this time and it is found to have become positive, most certainly

it is of great value. Could it be of any greater value in the case of the infant or the child? It is a test that should be applied routinely, not only through infancy and childhood, but throughout adult life.

We have rather recently learned that after all, perhaps, the greatest number of mistakes in diagnosis of lung diseases is due to our failure to make careful systematic examinations on all of our patients.

## DEPARTMENTS

### HUMAN BEHAVIOR

JAMES K. HALL, M.D., *Editor*  
Richmond

#### ON THE ELEVATION OF THE BOTTOM RAIL

The old rail fence on the grounds at Pinehurst caught my eye and awakened reminiscences. No one can look at such a structure without thinking of the mythical rails that Abraham Lincoln rived out in the mid-west in ante-bellum days and used afterwards in paving a pathway into the White House. But the rail fence has just about disappeared, both as a structure and as a myth. It must be primitive in origin. I can easily imagine that for thousands of years mankind has been using some such means either to confine his live-stock or to protect his crops from wandering animals. A well-built rail fence has a good many virtues. Formerly it was made of material that was needed for no other purpose. It was constructed entirely on the plantation, and no considerable amount of skill was required in riving out the units of structure or in fabricating the fence. I wonder if the pole or the rail fence does not reach as far back into antiquity as the tent made of animal skins. I doubt not at all that Thomas Jefferson caught the idea of the serpentine brick wall now to be seen on the campus of the University of Virginia from some farmer's old rail fence in Albemarle county. In my boyhood days in Iredell a rail fence was often called a worm fence. Those rails in the structure that lay actually on the ground constituted what was called the worm. Because of the fact that they lay

upon the earth the worm rails rotted long before the superstructure, and for that reason the fence tended gradually to settle down and to become lower and lower. Rebuilding the old fences was one of the winter-time jobs on every good plantation. The structure was carefully disarticulated, decayed rails were thrown aside, and the soundest rails were put on the ground and those rails beginning to show decay were put well above the ground where they would be free from contact with the soil and where they would be kept dried out by the sunshine and the moving air. And the fence rebuilt in such fashion every few years remained for a long time a serviceable barrier, almost as good as new. Out of the process by which the rails were frequently rearranged with reference to each other as outlined above came the expression still so frequently heard in the country about the bottom rail's getting on top.

Disarticulating and rearranging and rebuilding is a highly useful procedure entirely outside the domain of fence construction. Many a rail lies long in the bottom of the fence whose inherent virtue and fitness entitle it to be well above the ground. The statement is true figuratively as well as literally. "The Liver Fad"—an editorial copied in the May issue of this journal from the *Journal of the Arkansas Medical Society*—gives a clever illustration in the domain of d'etetics of the elevation of the bottom rail in the fence to the place where the top rail had previously been. The discovery that liver substance is highly useful in the treatment of certain forms of anemia is responsi-



ble for the present aristocratic position of this organ in the dietary. Formerly it was looked upon practically as refuse. And I can easily remember when cow peas and corn bread were regarded as suitable only for negroes who were engaged in performing hard manual labor. The cabbage not so long ago made little appeal to the delicate palate, but the dietitian now knows that cabbage is especially rich in vitamins and that the vegetable is more easily digested and more wholesome when eaten raw. Every country child has known for ages that there is no better article of diet than salted raw cabbage stalk, which the mother was so certain would cause deadly colic. And isn't the juice of the raw tomato fed to little babies? A few years ago such advice from a pediatrician would have landed him in jail, and a century ago such a dietary suggestion might have brought about his commitment to an asylum, for in Revolutionary days the tomato was only an unattractive garden flower. The standing of the squash in food society has likewise improved, and the fully ripe banana is looked upon as possessing qualities almost miraculous. In days not so long ago I have seen great pyramids of cotton seed disintegrating under the winter rains and snows in the fields of Iredell. Cotton seeds at that time were useful only for soil enrichment. But now they are half as valuable as the cotton. From the oil expressed from the seeds is made the choicest hog lard, the golden dairy butter, and olive oil such as can be procured only in sunny Italy. Milady's delightful mayonnaise dressing would be flat and unprofitable indeed if robbed of its cotton seed oil. In the dietetics of today science often fetches the bottom rail in the fence right up close to the very top of the structure.

And in industry the same sort of conserving and stabilizing process is frequently to be seen in action. Substances once looked upon as refuse are now known to constitute excellent raw material. Paper may be made from the waste laps of trees, and coarse cotton may be metamorphosed into material that has all the pleasing qualities of silk. The bottom rail in the fence must not be despised lest in a moment some disrespectful adventurer find in it qualities that will place it above its fellows.

In the world of human beings—in that de-

partment of life called by the educators sociology—history bears grim testimony to the frequency with which the bottom rail has been suddenly and sometimes violently brought into an upper plane in the fence. And in spite of the commotion momentarily created by the rearrangement of the social units the civic fence has often been left in better condition. Virtue is an inherent quality, innate, congenital, not placeable in matter or in persons by a mere mortal. The bottom rail in the fence may have all the virtues, and more, than the top rail. Like energy, qualities can not be created by man. They may be discovered, transformed perhaps in some degree, made use of, but they cannot be destroyed by being ignored or despised. Nature seems to hate snobishness. She is surprisingly democratic and self-reliant. She is constantly rebuilding her fences, whether they be dietetic fences, economic fences, social fences, or political fences. Sometimes she reforms her structures by swapping the bottom rail in the fence for the topmost rail. And it is often well.

## LABORATORIES

*For this issue NANNIE M. SMITH, M.A.*

### THE VALUE OF RETICULATED CELL COUNTS IN ANEMIA\*

The reticulated red cells are red cells which when stained by means of a vital stain show an inner structure consisting of granules, filaments and networks which take a darker stain than that of the surrounding cytoplasm. These cells are not seen in dried or fixed preparations. The origin and exact nature of these structures within the red cells are not at present known. However, this reticulation is considered an evidence of regeneration. Reticulated cells represent the young, growing red cells. Normally the number of these reticulated red cells is about one per cent of the total red cells. The percentage is increased in pernicious anemia and other hemolytic diseases. Dameshek reports the variations from normal of the reticulated cell count in a large number of cases of pernicious anemia, aplastic anemia, purpura hemorrh-

\*This article is in effect a review of a paper by William Dameshek in the Boston Medical and Surgical Journal, April 29, 1926.

gica and congenital hemolytic anemia, and in the anemia of pregnancy. In pernicious anemia, he found that the reticulated cell count rose to at least five or six per cent from a few days to a few weeks before a remission, and fell to or remained at a low figure (0.5%—1.0%) during a relapse, or as a forecast of death. The reticulated cell count in pernicious anemia is ordinarily higher and more variable than in normal blood. Counts up to five per cent should not be considered as an indication of a coming remission, as the bone marrow in this disease is evidently continually being regenerated, as well as destroyed. It was found that ordinarily there was a rise in reticulated cells after transfusion. Sometimes, in cases where the reticulated count was low and remission was unlikely to occur, transfusion caused the reticulate count to rise to a high figure and remission occurred. Splenectomy done in three cases of pernicious anemia, although it produced remission, did not produce a rise in reticulated cells.

Dameshek considers the reticulate count the best single point in estimating accurately the amount of bone marrow regeneration. The presence of nucleated red cells is characteristic of pernicious anemia, but this is not true of their number. Some cases show nucleated cells both during relapse and remission. Other cases rarely show nucleated cells at any time. The number of nucleated cells is not an index of the occurrence of remissions. Polychromatophilia is also an indication of regeneration, but it is sometimes difficult to decide whether a cell is slightly polychromatophilic or not.

Basic stippling, seen in the various anemias, does not indicate the amount of active regeneration. The rare disease, aplastic anemia, in which there is a failure in the bone marrow growth with a resultant rapid disappearance of all the cellular elements from the blood stream, shows no evidence of regeneration and hence a total absence of reticulated cells. In the few cases observed by Dameshek there were practically no reticulated red cells present.

In purpura hemorrhagica, which is characterized by a low platelet count resulting in hemorrhages and anemia, with a low reticulate count the patient continues to bleed and death results eventually, with a continued

high reticulate count the platelets increase in number and the patient recovers.

Congenital hemolytic anemia, in which there is a slight bone marrow destruction and a great deal of regeneration, shows a reticulate count often as high as 50 per cent.

The anemias of pregnancy may be of the primary, secondary or splenic types. The reticulate count behaves in these cases just as it does in these types of anemia when they are not associated with pregnancy.

Secondary anemia shows an elevated reticulate count during regeneration.

Dameshek's conclusions, in part, are:

1. The reticulate count of the red cells is a true index of the amount of bone-marrow activity.

- a. Before and at the beginning of any remission or permanent rise in red count, the reticulate count surpasses 6 per cent; as the culmination of the rise is reached, it gradually falls to normal.

- b. With bone-marrow aplasia, the reticulate count is extremely low, practically nil.

2. The reticulate count is the *best* index to bone-marrow activity—better than nucleation of the red cells, polychromatophilia and stippling.

3. There is no better index to prognosis in pernicious anemia than the count of the reticulated cells.

4. The relapse in pernicious anemia is closely related or at least extremely similar to aplastic anemia, which with its evident bone-marrow failure, has an almost absent reticulate count.

5. Platelet regeneration and aplasia are apparently closely related to red cell growth, for in purpura hemorrhagica the reticulate count goes up before recovery and remains low with impending death from hemorrhages.

6. In the field of diagnosis, the marked reticulosis in congenital hemolytic anemia is a pathognomonic point differentiating that disease from all other anemias with large spleens.

---

"Do you believe a rabbit's foot ever brought good luck?"

"You bet! My wife felt one in my pocket and thought it was a mouse."

---

As the little chorus girl said to her sweetie, as she kissed him good night: "So long, I'll sue you later."

## ORTHOPEDIC SURGERY

O. L. MILLER, M.D., *Editor*

Gastonia, N. C.

### SCOLIOSIS TREATED BY THE OPERATION OF SPINE FUSION

For the past several years a number of orthopedic clinics have been very industriously trying to improve the treatment of spinal curvature. In clinics where the technique of the fusion operation has been mastered and given a fair trial, all agree that it represents an advance in the treatment of this unfortunate deformity.

Hibb's clinic in New York has the largest number of cases on record receiving the fusion operation, and these cases have been followed over the longest period of time. Three hundred and fourteen cases were operated prior to 1926 and some have, then, had post-operative observation for fourteen years.

Almost one-half of the cases were caused by infantile paralysis. Nearly an equal number were of undetermined etiology. The few remaining cases were due to congenital conditions, rickets, and empyema.

The operation of spine-fusion when carefully done is considered to be one of only moderate severity. In over one-half of the Hibb's series the operative time was less than one and one-half hours. In only a few exceptions did the post-operative temperature go beyond 103 degrees. The mortality rate was 1.1 per cent. Post-operative shock and pneumonia were the causes of death.

An area of natural fusion of the posterior elements was found at operation in a few cases. In no instance was this fusion adequate to prevent an increase of deformity.

Corrective gymnastics with or without jackets are of only temporary value in the treatment of the progressive scoliotics. In order to hold a correction and prevent the progress of a lateral curvature, stabilization is necessary. Results show that this is accomplished by the spine fusion operation.

Many of the older patients in Hibb's series were operated because of pain and fatigue in the poorly mobile curvature. All recovered from their symptoms except one, in whom the area of fusion was inadequate. Practically all in the series showed that their general health was improved, and that they felt better after the operation. Excluding the

few in whom the proper area was not adequately fused, all had an improvement in posture.

Risser, reading before the New York Academy of Medicine, January, 1928, emphasized that the area of fusion must be accurately selected. Fusion of a compensatory and not the primary curve resulted in an increase of the deformity. In a few cases difficulty was experienced in the selection of the primary curve. Incomplete roentgenographic records of the entire spine were not infrequently responsible for this error. A fusion of fifth lumbar and sacrum in only a very few cases stabilized a curvature of the lower spine.

The stabilized area must be adequate. In not a few the fusion did not extend low enough. This was especially noticed in the cases of paralytic origin and most marked in those with imbalanced abdominal musculature.

The correction gained by pre-operative traction and turnbuckle jackets was not always maintained in the earlier cases operated. In these external support was not constant nor was it worn long enough after the operation. This error was corrected in the more recent cases by the use of a fixed jacket for six to twelve months after operation, depending on the amount of correction obtained.

Spine fusion will prevent an increase of scoliosis if the area of fusion is adequate and accurately selected; in older patients relief from pain is obtained. This results in an improvement in posture, and general well being of the patient.

## UROLOGY

HAMILTON W. MCKAY, M.D., *Editor*

Charlotte, N. C.

### A CASE OF SPONTANEOUS BLADDER RUPTURE

*For this issue* JOHN P. KENNEDY, M.D.  
Charlotte, N. C.

A negro woman, aged 32, was admitted to the Good Samaritan Hospital February 8, 1928, complaining that her stomach had burst. She stated that she had been pregnant eight times and had four living children, her baby being three years of age. She had one miscarriage at two months, one at three months, one stillborn at seven months and

one infant died at three months of age. She had no special trouble with any pregnancies except that prior to the stillbirth six years ago she had considerable difficulty in voiding and for several weeks prior to this labor she could void best lying on her back. Twelve years ago she had fever lasting two or three months. She had been constipated all of her married life. She never had any backache except when she was pregnant and never had any bladder symptoms other than those mentioned. Her last period occurred October 2, 1927, and she first felt fetal movement about February 1st. On January 1st, five weeks before admission, she began to have difficulty in voiding which steadily increased until she was unable to completely empty her bladder, after which she noticed a swelling in the lower abdomen and suffered severe pains in the lower abdomen and back which became so severe as to keep her in bed for the past two weeks. On February 2nd, six days before admission, a place below her navel "riz up like a boil" and three days later bursted and about a quart of cloudy fluid ran out much to her relief. Three days later she was brought brought to the hospital.

She was found to be a fairly sick woman with a pulse of 130 and temperature 100. She was very thin and the upper abdomen was relaxed. The lower abdomen was rounded, prominent and 5 cm. below the umbilicus was an area of necrosis 3 cm. in diameter from which urine escaped and around which for an area of several inches was a hard, infiltrating mass which felt as though it were in the abdominal wall. The posterior vaginal wall was bulging; the cervix could not be seen with a long speculum, and could barely be felt with the finger high above the pubic arch. There was a mass largely filling the pelvis which on rectal examination was moderately firm and fixed. The blood wassermann was negative.

Cystoscopy showed the urethra pulled high up above the pubic arch and the bladder greatly enlarged with general cystitis and an opening in the fundus corresponding to the opening in the abdominal wall. There was no sign of an old ulcer at this point and no ulcers elsewhere in the body.

It was evident that we had here a pregnancy in a woman with a fixed retroversion in whom the fundus had failed to rise out of

the pelvis at the end of the third month and in whom the cervix rose out of the pelvis and pointed upward and forward. The upward rise of the cervix with the drag on the urethra and bladder had made voiding increasingly difficult until nature relieved her by rupture. There was no history of trauma but the patient thought she might have hurt herself in climbing some high steps at the back of the house. It was my opinion that the bladder ruptured extraperitoneally several days prior to the sloughing of the abdominal wall. This opinion was suggested by her history and supported by the marked induration of the abdominal wall surrounding the site of rupture. It was almost beyond reason to think that the bladder would over-distend to the point of rupture and yet here was an evident example of it. This case was similar in my opinion to that of a woman with far advanced portal cirrhosis and ascites whose abdomen ruptured spontaneously while in the hospital. The ascitic woman developed an area of necrosis in the lower abdomen near the midline a few days prior to the rupture in much the same manner as the case under discussion.

A de Pezzar catheter was placed in the bladder and the slough in the abdominal wall was treated antiseptically. At the end of this time she was in very good condition but still drained urine through the abdominal fistula when the retention catheter was removed. The question arose as to the best plan to pursue. It was evident that the bladder would not heal until the cause of the retention was removed. It was thought best to terminate the pregnancy. Chloroform was given, the cervix grasped with forceps and pulled down and an unsuccessful attempt made to replace the uterus. The cervix was dilated and packed with gauze. Forty-eight hours later she miscarried. The placenta did not come away and after waiting an hour she was given chloroform and the placenta removed from the uterus; and with two fingers in the uterus another attempt was made to replace it, but the fundus was held tightly in the pelvis by adhesions.

Four weeks later the de Pezzar catheter was removed and the fistula was healed. The important thing for the future welfare of this patient is the prevention of further conception. The dangers incident to pregnancy have been impressed upon her and her hus-



band, and a bilateral section of the vas was offered the husband as the best way to prevent further pregnancies, but he respectfully declined.

In the English literature of the past twenty years to which I had access, I was able to find reports of only four cases of so-called spontaneous bladder rupture: three of these followed labor, one an ulcer—the result of spinal injury, and one due to prostatic obstruction. All operated upon and healed.

*Case 1.*—Reported by Dr. C. B. Keenan, *Canadian Medical Association Journal*. A woman, aged 32, suffered bladder rupture two days after labor. She was operated upon in three days and found to have an extraperitoneal rupture. The fact that 8 ounces of clear urine were obtained two days after childbirth led her surgeon to think that the bladder was ruptured during labor and gave way two days later. The labor was a dry one, lasting 24 hours and forceps were not used.

*Case 2.*—Reported by P. Zachariae and abstracted in *Journal A. M. A.*, p. 338, July 22, 1922. This woman five days after labor developed symptoms of peritonitis and laparotomy showed a large rupture in the fundus of the bladder. In this case the urine had been free from blood. Zachariae refers to an analogous case in a woman who ruptured her bladder on the ninth day after delivery by stooping over.

*Case 3.*—Reported by White and Wigram, *British Journal of Surgery*, 1916, p. 324. A private soldier suffering from cystitis following spinal injury showed signs of bladder rupture three hours after irrigation with boric acid solution. At operation an extraperitoneal rupture was found occurring at the site of an ulcer. This patient recovered.

*Case 4.*—Reported by Dr. Joseph T. Geisinger, *Annals of Surgery*, p. 206, Volume 77, 1923. A colored man, aged 60, was admitted to the hospital with an acute retention of urine due to prostatic obstruction of 48 hours duration. Twenty-four hours after it began he had a severe pain in the lower abdomen and felt "as sick as a dog." At operation his bladder had ruptured into the abdominal

cavity but there was no sign of peritonitis. The patient recovered.

A diagnosis of bladder rupture is important since the earlier these cases are operated upon the better the prognosis. Obtaining clear urine through a catheter is not reliable evidence that the bladder is unruptured, as has been noted frequently. Injection of air or of boric acid solution for diagnostic purposes is a questionable matter and may add to shock and disseminate infection if the bladder is ruptured.

Two forms of bladder rupture are recognized, *intraperitoneal* and *extraperitoneal*. Both forms require operation but only in the former should the peritoneum be opened. In the case of a suspected bladder rupture the wisest plan to follow is to make a suprapubic incision and inspect the prevesical tissues for signs of extravasation. If none are found then the peritoneum should be opened and search made for intraperitoneal rupture. This is most apt to take place low down on the bladder wall where it is difficult to repair.

This report is concerned only with spontaneous bladder rupture and does not concern those cases due to trauma which are much more frequent.

505 Professional Building

## RADIOLOGY

JOHN D. MACRAE, M.D., *Editor*  
Asheville, N. C.

### BIRTH MARKS

Radium has become our best agent for the treatment of nevi. Its method of application varies with the extent and character of the birth mark.

Surgical excision, carbon dioxide snow, the injection of boiling water, fulguration with high frequency electricity, and ultra-violet rays all have been used with varying degrees of success but these methods do not produce results which compare favorably with x-rays or radium; especially radium.

Nevi are vascular dilatations in the capillaries of the corium or subcutaneous tissues. They vary from very superficial "port wine" stains to extensive cavernous angiomas. They may be arterial or venous in character and will accordingly be a bright red or purplish

color. Also the angiomata are often subcutaneous and covered by skin which is not discolored. Angiomata which are deep seated and massive differ from the flat superficial lesions only in the degree to which blood vessels are dilated. Flat or cavernous nevi are present at birth or develop soon after. They tend to grow for a few weeks and then to remain stationary but may increase in size until large areas are involved. This is especially true of the cavernous angiomata.

No definite cause for these birth marks is known. It is said that they are more frequent in girls. Their occurrence may be anywhere on the body but most frequently they are seen on the face, the lips, nose, forehead and neck. There is no scientific basis for the idea that maternal impressions are responsible for birth marks.

Radium or x-rays acting on a vascular nevus produce an endarteritis which obliterates the capillaries and causes the fading of the discoloration in the skin, in case of "port wine" stains and in cavernous angiomata shrinking of the vascular mass follows the endarteritis which develops in the dilated blood vessels.

The x-rays produce changes identical in nature with radium in dealing with birth marks but radium is far more convenient to apply and is therefore our choice of remedial agents.

Age of the patient is an important factor. For two reasons we should begin to treat the lesion as soon as it is possible. First, infantile tissues are most susceptible to the rays, therefore the younger the patient the smaller the effective dose. Second, as many nevi tend to become larger it is wise to begin treatment while they are small; that is, as soon as they are recognized.

Another reason for beginning treatments early is that the doses must be small and often have to be repeated over a considerable length of time.

Radium dosage to flat vascular nevi or birth marks is to be very light. It is astonishing what a small amount of radiation will cause the discoloration to fade away. A dose which is calculated to cause no dermatitis is given and if at the end of six weeks only slight fading of the discoloration is accomplished we should be satisfied. It will probably be necessary to give more treatment. The

second radiation should never be as great as the initial dose. Subsequent doses must decrease in strength and the intervals between applications should be lengthened.

When large areas are involved it is well to treat only one or two square centimeters at the first seance and judge of the strength of future doses by the reaction produced.

When the lesion is a massive angioma the radium pack, with filtered rays is advisable. Some authorities advocate the use of radon implants or of radium needles thrust into the affected tissues.

In conclusion:

Radium treatments of birth marks produce excellent cosmetic results when the lesions are superficial, and in cavernous angiomata they produce results which are better than by any other method.

Vascular nevi should be treated most conservatively and patiently. The treatment should be instituted as soon as the condition is recognized.

## INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., *Editor*  
Asheville, N. C.

COMMENTS UPON THE INAUGURAL ADDRESS—  
AS PRESIDENT OF THE AMERICAN MEDICAL  
ASSOCIATION—OF DR. W. S. THAYER  
OF BALTIMORE

In this day of party conventions, of keynote speeches and of general mud-slinging and malevolent vituperation, it is a pleasure to turn to an address such as this, breathing as it does "peace on earth, good-will to men." In electing Doctor Thayer to its presidency, the American Medical Association conferred a great honor upon him, but it also vastly honored itself in selecting as its chief executive a man of such rich clinical knowledge, of such true culture and of such deep humanitarianism. His inaugural address is at once a justly deserved tribute to the achievement of the association which he heads, an exposition of that which is finest and best in the life of the physician, and a plea for the continuance and further upholding of those ideals which have ever been the guiding stars of our profession. The address is neither oratorical nor forensic; but it scores point after point as regards the relationship of the phy-

sician to the community, the importance of the doctor in connection with medical education and medical standards, and the growing responsibilities of the medical profession to keep the laity wisely posted on subjects pertaining to public health as well as the great burden that lies on the shoulders of those medical men that elect to serve their fellows in capacities of public trust; namely, health boards and health officers. It is striking that a man whose national reputation is built primarily upon his ability as an internist should have such a catholic viewpoint of the varied needs both of the profession and of the public in matters medical; diagnostically, therapeutically, prophylactically and educationally. The editor can but admire at a distance and genuinely congratulate Dr. Thayer upon his encyclopedic knowledge and upon the masterly manner in which he has presented his conceptions in a relatively brief address.

The slogan or *Leit-motif* of the address, if one may use such an expression, is to be found in the objects of the American Medical Association as set forth in the Constitution: "to promote the science and art of medicine and the betterment of public health." This is Dr. Thayer's sheet-anchor and never does he depart from it. He says: "We are associated to seek further knowledge that we may gain power individually and collectively to prevent and heal disease." Skilfully he defines the difference between a profession or an art, and a trade by showing that "in trade the immediate object is financial success, while in a learned profession the constant daily preoccupation of the student or practitioner, whether he be a lawyer, engineer, chemist or physician, is the acquisition of learning or skill, the promotion of the science or the perfection of the art to which he devotes himself."

Anti-commercial to the last degree, Dr. Thayer deprecates the estimation of the value of a man by "what he makes." He quotes an incident: "An individual, speaking of a lawyer, once said to me: 'Why X is a \$40,000 man'. What did that tell me? Of the lawyer, practically nothing; of the speaker much, for it gave me a very clear picture of his crude, sordid and *un*-understanding point of view. The physician . . . if his main interest be not in his profession, will accomplish very little." And again: "Important and

necessary though financial considerations may be to most physicians, happily the main aims and objects of the doctor are the humanitarian and scientific aspects of his work. He who can practice medicine for a lifetime without becoming more charitable, more tolerant and more temperate has missed his calling."

Though he dwells upon it but cursorily, Dr. Thayer urges the importance of a truly cultural background for the physician. An unemphasized sentence in his address reads as follows: "Fully to exercise that personal influence which he should exercise on his patients and on their families, the physician should acquire and is acquiring, more and more, a basic education sufficient to permit him to move easily among his fellows, an education which should enable him to appreciate that which is fine in life, in art, in literature." Dr. Thayer then cites some of those who have notably achieved this distinction, names like Holmes, Mitchell, Osler and Francis W. Peabody. As the editor read these lines he wondered whether Dr. Thayer might be thinking that there is too much attention being given nowadays to "pre-medical" work: that a generalized education in the realm of the humanities is being sacrificed on the altar of science, and that the man entering college, having made up his mind to study medicine is prone to place his entire undergraduate career (insofar as the curriculum will allow him so to do) to fitting himself for his purely scientific training, forgetting the while that every cultural asset that he may acquire will be of definite practical advantage to him later, in the practice of his chosen profession.

Passing to a discussion of medical education, Dr. Thayer takes up three criticisms which have been leveled at various university clinics. These are as follows:

1. That in some schools an understanding exists that the professor may not engage in private consultations. Dr. Thayer avers that he knows of no such schools.
2. That the understanding exists in some clinics that the receipts of the professor from his private consultations shall be turned into the budget of his department is a *vital principle* rather than an *experimental detail* of the plan of organization of the clinic.
3. That the ultimate ideal of the university school of medicine is to place clinical

teaching wholly in the hands of university professors and gradually to exclude the practitioner from hospital and school.

Dr. Thayer states that there is a feeling in many of the better schools of medicine that too much is being crowded into a four-year course. He wishes that he "might live to see the day when such elementary methods as a prescribed four years' course had disappeared from American medical education; when our schools were so organized that a student of medicine might be treated as a man rather than as a schoolboy."

This sentence presents elements for meditation. Dr. Thayer feels that a thorough groundwork should be given in the science and art of diagnosis and of therapy and in the principles of surgery, and that the physician must have a practical working knowledge of the various instruments of precision which he must employ at the bedside, at the office and in the laboratory.

But, as the editor read and re-read the sentence above quoted, he seems to see in Dr. Thayer's words a vision of the future: when a man will be sent forth from a school of medicine not because he has completed so many courses, totalling so many hours, and recesitating so many years; but because, after the lapse of a varying period of time, gauged by the basic elements that go to make up a good diagnostician and a good therapist, he will have been tried and not found wanting and will be adjudged worthy to enter the lists of the *Carnival of Practice!* In some cases it may take him three years—in another six years, but when finally thought worthy there will be no question, and when that happy time comes, State Boards of Medical Examiners will fade away and the prowess of the individual will be so potent that his worth will be equal in Portland, Maine, or Portland, Oregon. If the editor has not misinterpreted Dr. Thayer's idea, he has correctly phrased it. At present it is utopian, but the practical men of the present are realizing the dreams of the visionaries of the past.

The fact is stressed that the function of the medical school is *not* to turn out specialists and, though no mention is made thereof, the editor is certain that in Dr. Thayer's mind is the thought that brief post-graduate courses are turning out pseudo-specialists at

a rate that is alarming and of a quality that is detrimental to the welfare of their patients. He says: "the specialist who has not had a good basic medical training is a danger to society. Too early specialization is one of the great faults of modern American education."

In a paragraph composed largely of questions, Dr. Thayer wonders about the question of the medical education of nurses. He questions whether some schools of nursing are "not committing that fault which is commonest in all our American education, medical and non-medical; namely, the attempt to give a smattering of many things at the expense of the foundations?" The editor, having had an experience of 12 years in teaching nurses, feels that Dr. Thayer is overwhelmingly right and that far too much chaff is being crowded into the nursing curriculum the main object of which is to brighten and make more attractive the prospectus of the training school.

Toward the end of his address, Dr. Thayer dwells upon the cost of medical care; a problem which is annually becoming more acute for the man of pride, self-respect, and small means. Something must and will be done about this matter within the next few years as evidenced by the activities of the recently created Committee on the Cost of Medical Care with its elaborate five-year program from which we all expect true constructive conclusions and a definite sign pointing a way out. Group practice is also touched upon, by no means enthusiastically (wherein the editor concurs) and finally the important point is scored to the effect that the health officer of a city, town, village or county is a most important person, vested with great authority and with co-equal responsibilities. Such a man should be chosen solely because of merit and achievements, and not, as is so often the case, because he happens to be a friend of the mayor. Public health has become today a distinct specialty and should be looked upon as such. The sanitarian is in as specialized a sphere as the ophthalmologist and the people of any community should demand and receive just as efficient service from their health officer as they would from their city engineer or chief of police. And yet how many communities entrust their health to some physician whose main qualification lies in his political affiliations!



Those of my readers who have read Dr. Thayer's address will be bored by this abstract and by the editorial comments thereon. Those that have not read the address may be stimulated so to do and it is for them primarily that these columns have been written. They will find the address in the *Journal of the American Medical Association* for June 16, 1928. To me it has been a stimulus and a revelation. A stimulus to emulate, insofar as in me lay, the ideals set forth; a revelation in that it discussed comprehensively and yet briefly the various great problems that confront the medical profession of the United States. It is a great address: read it once—twice—thrice, ponder and reflect thereon for truly as an epilogue Dr. Thayer might have written: "With the wisdom of the Centuries I speak."

---

## EYE, EAR, NOSE AND THROAT

*For this issue* F. E. MOTLEY, M.D.

### THE RADICAL MASTOID OPERATION

The radical mastoid operation is used as a means to prevent the more serious complications of chronic otitis media. It should be used only in extreme cases where conservative means have failed or when there is indication for radical surgery to save the patient's life.

In general it might be stated the radical operation is indicated when there is destruction of the mastoid bone or the presence of cholesteatoma can be demonstrated. Practically all otologists agree that septicemia, signs of labyrinthitis, facial paralysis, drowsiness or signs of increased intracranial pressure, when accompanying a chronic discharge from the ear, may be classed as an indication for radical mastoid operation.

There are variations in the technique and operative procedure of radical mastoidectomy, although all these methods lead toward converting the middle ear and mastoid into one epidermitized cavity which may be cleaned, treated or made to drain at any subsequent time through the external canal.

It is not always possible to stop the discharge by operation and usually there is some further reduction of hearing after the

operation, although at times there may be considerable improvement in hearing, depending somewhat on the pathology present and the amount of hearing lost before the operation. However, it should be kept in mind that the primary aim of the radical mastoid operation is for the relief from danger and not to stop the discharge or to improve the hearing.

There are several modifications of the radical mastoid that have not been universally accepted, but have for their aim preservation or improvement in hearing in those cases of chronic discharging ear where the drum and ossicles show but little involvement.

In recent years the skin graft has been used to further epidermitization of the mastoid cavity and middle ear following the radical operation. In addition, there is more certainty of a dry ear and usually the end result is better in so far as the hearing is concerned. Recently Mosher has advocated the use of a gauze basket impregnated with paraffin as a means of carrying the skin graft. This pliable carrier can be moulded and pressed into the cavity so as to approximate the skin graft to all parts of the cavity. In addition to the above mentioned advantages, this may, also, shorten the convalescence time of the patient.

---

## SURGERY

GEORGE H. BUNCH, M.D., *Editor*  
Columbia, S. C.

### THE THYMUS QUESTION

The thymus springs ventrally from the third and fourth branchial clefts and develops into a bilobed ductless gland extending from the pericardium below almost to the thyroid gland above. It lies just back of the sternum in the anterior mediastinum and comes into intimate contact with the upper pericardium, the superior vena cava and the arch of the aorta. In the neck it is below the thyroid in front of the trachea and between the great vessels. It is about twice as long as it is broad and except in the middle is flat. It is grayish red in color and has a poor blood supply. It is soft and varies greatly in size and development. MacCallum of Columbia University says that the thymus in its normal evolution and involution reaches its maxi-

imum development coincidently with the maturation of the sexual organs and then gradually atrophies, retaining even in old age presumably functioning thymic cells. He says the thymus is composed of two genetically distinct types of tissue, lymphoid and epithelial, intimately commingled. In early childhood cortex and medulla cannot be distinguished, but from adolescence onward there is a progressive reduction in the amount of parenchyma and interstitial tissue and fat come to form a large part of the organ. The normal weight at birth is 13 grams, at 15 years 37½ grams, at 75 years 6 grams.

The physiology of the thymus is obscure. Howell says practically nothing is known of its function. Its proximity to the thyroid and parathyroids and its similarity in origin suggests that like them it may influence metabolism, but physiological experiment has not proved any specific effect. Jonson has shown that in rabbits the thymus can by four weeks underfeeding be reduced to one-thirtieth its normal weight, and that normal feeding is soon followed by a return to normal weight. Whatever the function of the thymus may be, it is not essential to life, and its influence is mostly exerted in the early developmental years.

Clinically the thymus in children is important because of its relationship to thymic achmia and to status lymphaticus. At birth it may weigh 60 grams and by pressure mechanically embarrass respiration and obstruct circulation. With the hyperplastic thymus there may or may not be corresponding enlargement of the lymph glands. In all forms of thymus enlargement a careful history is distinctive. During the first two years of life there are recurrent attacks of dyspnea which may have been so slight as to be hardly apparent or so severe as to cause cyanosis and a sense of impending death. They are apt to occur during fits of crying or coughing but may come when the child is asleep. The dyspnea from large thymus may simulate foreign body in the trachea and manifest itself by a stridor which varies greatly in severity and is present in both inspiration and expiration. Some children are given ipecac on the mistaken impression that the condition is croup. In others the symptoms are of asthma. Fraser thinks the attacks are caused by pressure of the thymus upon the soft compressible

trachea of the child, the gland acting as a wedge forced into the small unyielding upper opening of the thorax. Pressure from the thymus upon the recurrent laryngeal nerves stimulates constrictor impulses and causes spasmodic closure of the glottis. Quite often the clinical history is closed by the tragedy of sudden death which may come during sleep or from some unusual exertion. General anesthesia is hazardous in children with thymic enlargement.

Evans in *Surgery, Gynecology and Obstetrics*, October, 1924, says: "In new-born infants who develop cyanosis, whether constant or intermittent, persistent large thymus should always be suspected. Such infants even in *extremis* should be given x-ray or radium therapy. Diagnosis of broncho-pneumonia, obscure intracranial hemorrhage and congenital heart disease should not be made without more seriously considering persistent large thymus as a cause of symptoms." Peterson in a series of newborn infants reports abnormally large thymus in 40 to 50 per cent.

The diagnosis is made by the history, by finding dullness on percussion over the upper mediastinum, and by the x-ray.

The treatment of thymic enlargement used to be thymectomy. One observer reports a series of 75 cases with relief of symptoms. Now either radium or x-ray therapy is used to reduce the size of the gland and to relieve symptoms. The relief after radiation is permanent and these little sufferers are spared the dangers of anesthesia and of operation. Where adenoids and tonsils are to be removed or other surgery requiring a general anesthetic is to be done on small children enlarged thymus if found should be treated by x-ray before operation.

We feel that the rank and file of the medical profession is hardly yet awake to enlarged thymus as a cause of sudden death in small children and think when an authority like Dr. Morse, Professor of Pediatrics in Harvard Medical School, addresses the Medical Association of South Carolina on *The Vagaries of Pediatricians* and speaks at length on the thymus obsession, he is hardly fair to his audience and is apt to do more harm than good. He attributes the sudden deaths in children with enlarged thymus to shock, to improper administration of the anesthetic and

to adrenal insufficiency and ends the discussion by saying that this fad like so many others will wear itself out and common sense will again prevail.

## PERIODIC EXAMINATIONS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*

High Point, N. C.

### THE NECESSARY EQUIPMENT FOR A HEALTH EXAMINATION

Following a recent community talk on the value of health examinations, a man arose and asked if a certain amount of equipment is not necessary before a doctor can make a health examination properly. We replied that it certainly is, though it need not be elaborate.

We have seen some offices in which a health examination cannot be made—offices without any examining table or any other kind of table or desk, offices cluttered up with broken bicycles, croquet sets, cobwebs, excelsior, packing boxes, tobacco juice, waste paper almost knee deep, windows so dirty that a good light is impossible, and all kinds of dirt and filth. Fortunately, such offices are exceptional, and are gradually becoming extinct. However, it seems timely to consider what may approximate the minimum necessary equipment for the average health examination. We venture to suggest the following as indispensable:

1. A good medical training.
  2. Thoroughness and honesty.
  3. Proper functioning of the examiner's special senses.
  4. A clean, well lighted office, properly warmed in winter, with the privacy necessary for a real examination.
  5. A desk or table with writing materials and record blanks.
  6. Case record files.
  7. Chairs. A revolving stool is helpful, but not absolutely necessary.
  8. Scales with height measurer. Standard weight tables.
  9. Watch with second hand.
  10. Clinical thermometer properly sterilized.
  11. Sphygmomanometer.
  12. Snellen test type and astigmatic chart.
- (If these are not available, all doubtful cases

should be sent to an oculist for refraction).

13. Examining table with stirrups.
  14. Electric flashlight.
  15. Tongue blades.
  16. Sheets, and poncho or kimono for examining women.
  17. Stethoscope.
  18. Finger cots.
  19. Rubber gloves. (The cots are an economy of time and money for rectal examinations.)
  20. Lubricating jelly.
  21. Vaginal speculum.
  22. Laboratory table.
  23. Bunsen burner or alcohol lamp.
  24. Urine containers.
  25. Test tubes, test tube rack, holder, and cleaning brush.
  26. Funnel and filter paper.
  27. Litmus paper.
  28. Acetic acid (Nitric acid stains and burns too badly.)
  29. Benedict's solution (better than Fehling's or Haines').
  30. Aqueous solution of ferric chlorid (diacetic acid test).
  31. Centrifuge.
  32. Glass slides.
  33. Microscope (unless a microscopist is easily and quickly available).
  34. Soap, water, basin, towels, etc.—running hot and cold water if possible.
  35. Sterilizer.
- In addition to the above list of essentials, the following will be found valuable to a very high degree—so much so that a man who has them would hardly be willing to examine many persons without them:
1. Reflex hammer.
  2. Ophthalmoscope.
  3. Otoscope.
  4. Pillar retractor.
  5. Proctoscope.
  6. Blood lance.
  7. Hemoglobinometer.
  8. Mechanical stage for microscope.
  9. Wright's stain.
  10. Distilled water.
  11. Loeffler's methylene blue.
  12. Cedar oil.
  13. Xylol.
  14. Wassermann tubes.
  15. Cotton.
  16. Alcohol—bathing alcohol.

### 17. Tourniquet.

18. An office nurse who is a laboratory technician—a tremendous saving of time who should be worth all she costs.

The above two lists taken together represent, we believe, a reasonable standard equipment for the ordinary health examination. Additional equipment can occasionally be used to advantage, such as transilluminators, the x-ray, etc., but such things really belong in the domain of special medical diagnosis rather than in health examination work. The equipment recommended is really the minimum needed for ordinary office diagnostic work. Almost all of it is necessary for making a life insurance examination.

To the well trained modern physician this will seem painfully obvious, but we have written it down because we have repeatedly seen it utterly ignored in practice.

---

## OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville, Va.

### THE MANAGEMENT OF BREECH DELIVERY

The more one studies the process of reproduction and the management of deliveries of humankind the bigger the subject becomes and the more he sees of how little we as physicians actually do in helping our expectant mothers through pregnancy, delivery and the lying-in period. The evidence gathered from the history of obstetrics shows that little has actually been done until within the last few years in this field, so when it comes to these cases of pregnancy at term where we have one of the various forms of breech presentation we encounter one of those situations that has been left more or less to mother nature to handle, and we have rendered little assistance. In this connection it is important to remember that our purpose is one of helping some physician to assist his patients safely through a difficult situation and we have no special hobbies as to what is the best procedure. The suggestions we make are practical; the editor has found them satisfactory in his work.

We assume that the attending physician has made a diagnosis as to the prevailing conditions and that he knows he has a breech case, so we will proceed to offer suggestions

for management.

The patient should be informed that she has a breech presentation, which is regarded as abnormal, difficult and dangerous; then she and her husband should be urged to give full and sympathetic co-operation. If it is impossible to get the patient in the hospital where the most ideal conditions can be had for delivery, then the patient should be put to bed and watched carefully through the period of dilatation. During this time the attending physician should obtain the help of either a good nurse or one of his fellow practitioners. If the patient's pains are too severe and exhausting she can be given one of the drugs, whichever one the attending physician prefers, to alleviate the pain and give her rest and relaxation during this period.

If the patient can be gotten into the hospital and if the physician understands thoroughly the use of the voothees bag, he will find it well to insert a number 6 into the cervix. This will uniformly and successfully dilate the cervix in a shorter period of time than will the bag of waters and breech. When the cervix is dilated you may proceed with the delivery. An anesthetic should be given and complete relaxation obtained. During the time the patient is passing through the first and second stages of anesthesia the vagina can be ironed out and slowly stretched. Then under strict aseptic conditions, one or both feet of the baby can be grasped with the left hand and with slight traction brought down; the buttocks may be delivered slowly, then the trunk and as the trunk is delivered rotate it so that one shoulder will be anterior and the other posterior. Shoulders should be delivered very slowly, either the posterior first or the anterior first. Some prefer to deliver the anterior shoulder and then rotate the posterior shoulder anteriorly and deliver it. The attending physician should use the method in which he is most proficient. After the shoulders have been delivered the assistant can take hold of the legs of the baby and bring the baby's body almost perpendicular to the body of the mother. At this point, with the right hand inserted into the posterior section of the vagina, press upon the chin of the baby, pushing it up and with the left hand over the symphysis pubis very gently press on the head of the baby, forcing it through the superior strait. When this is done insert



either one or two fingers into the mouth of the baby and with slight traction upward and outward and pressure over the symphysis pubis on the head the mouth of the baby can be brought so that it meets the junction of the mucous membrane and skin in the posterior region of the vagina. Now the fluids may be expressed from the baby's mouth and throat. It can be left in this position to breathe a few times. After this is done, with slight traction, usually on the shoulders, the head may be delivered.

This method of delivery is satisfactory. If the physician fully understands it and will use it right there will be less damage done to the birth canal and less danger of losing the baby than if the mother is allowed to expel the baby by the natural forces, because if these patients are allowed to go that way many of them are exposed to obstetrical shock, hemorrhage and septic infection.

The baby, having been delivered successfully, may be placed on the abdomen of the mother and covered with a warm towel. Watch it and keep mucus out of the mouth. In a few seconds it will begin to breathe all right. While the baby is resting on the abdomen of mother the pelvic floor may be examined and if it is slightly lacerated it should be repaired at this time. When the repair is made the cord may be severed, tied and dressed, and the baby placed upon its abdomen and wrapped in warm blankets and watched.

Plenty of time should be allowed for the uterus to contract and of itself expel the placenta. If, after thirty or forty minutes the uterus has not expelled the placenta, the physician should deliver the placenta according to the method in which he is most proficient. After the placenta has been delivered the cervix should be examined and if there are any lacerations they should be repaired.

We hope that the profession at large in this section will report cases that they have had of breech and the methods they have used in delivery, giving us facts about their successes and failures. This condition is rather common and most of us have it several times during the year and we lose a good many babies and a good many of our mothers have complications afterwards. We should offer all the brotherly help we can to help out this situation that causes so much morbidity

of mothers and so many fetal deaths.

## NEUROLOGY

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston, S. C.

### ABOUT A CLASSIC ON INFANCY

The bookshelves are crowded with new books on childhood and its problems. A few are worth while. It is a distinct pleasure to pick up the very able volume recently written by Arnold Gesell, director of the Yale psycho clinic. Dr. Gesell has entitled his book *Infancy and Human Growth*. It is sound and non-partisan in its viewpoints. I can best express its purpose and scope by a few quotations from the introductory chapter.

"The present volume will deal particularly with the characteristics of mental growth in the first two years of human infancy. Nowhere does mental growth proceed as prodigiously and as dramatically as in this early phase of the life cycle. Our data were secured by means of repeated developmental examinations of individual infants. These examinations were made periodically and comparatively with sufficient frequency to bring the general course of mental development into biographic view."

The book follows no specific school. "For contrast one may accordingly formulate two antithetical views on the psychogenetic significance of infancy; (a) that infancy is a transient phase, which is eliminated in the course of development and therefore relatively inconsequential; (b) that infancy is the formative period, when the basic and enduring organization of personality is accomplished. Between these two extremes there is room for a wide variety of postulates and methods of investigation. Indeed, it is probable, from the very nature of present day science, and the complexity of the problems involved, that the interpretation of infancy will be shaped by no single school of thought, but will be the outgrowth of a multitude of researches in laboratory and clinic."

Then there follow a number of chapters describing the means used for child study utilized by Dr. Gesell at Yale. They are simply told and graphically described.

Chapters 5 and 6 contain information of

great value for all physicians who are interested in the study of human beings, and particularly of the child. Summaries for the normal child of every month up to one year, then of fifteen, eighteen, twenty-one, twenty-four and thirty month levels. These summaries are extremely well done. For example, the eighth month summary follows:

*"Normative Summary for eight months level"*

"Motor Development.—(a) Sits momentarily without support; (b) raises self to sitting position; (c) picks up pellet with partial finger prehension.

Language.—(a) Gives vocal expression to recognition; (b) vocalizes in interjectional manner.

Adaptive Behavior.—(a) Definitely looks for fallen spoon; (b) utilizes handle in lifting inverted cup; (c) shows manipulatory interest in details of bell.

Personal-Social Behavior.—(a) Shows definite responsiveness to frolic play; (b) pats or smiles at mirror image; (c) restores bottle to mouth; (d) shows interest in throwing and sound production play."

The second part of the book is concerned with the genetic studies of infant behavior. First the average time and trend of development in a number of presumably normal children commented upon, and various developmental data obtained. It is shown how graphic representation of growth may be carried out. Next deviations from the norm is considered, both below and above. These chapters are highly worth while. Then irregular deviations are noted and a very good, although concise chapter on glandular factors is introduced. Twinning is considered in its influence upon growth, and finally the mental growth of the premature infant.

Part 3 has an interesting title, "The Significance of Infancy." There the treatment is broad and comparative in its implications. The problem of heredity is considered in relation to early mental growth, and the old nature *vs.* nurture problem is studied wisely and dispassionately.

Altogether, Dr. Gesell has produced a book of great merit. It is not a popular treatise to catch the public fancy. It contains no formulae or lists of don'ts. It has no axe to grind. But every physician should read it carefully and closely, for it is authoritative

and accurate. It will, without doubt, be a classic in its field.

## PUBLIC HEALTH

LOUIS L. WILLIAMS, M.D., Surgeon U. S. P. H. S.

*Editor*

Richmond, Va.

We have seen the marked decrease in the death rate in diphtheria following the introduction of free antitoxin in South Carolina. More recently we have noted the sharp decline in not only deaths but also in cases in Virginia following a state-wide campaign with toxin-antitoxin, the well known preventative of the disease.

Therefore we believe that a summarization of this work will be of interest and the knowledge will be of benefit to all of our members. Consequently we asked the Epidemiologist for the State Board of Health of Virginia, Dr. H. G. Grant, to prepare this summary for our benefit.

### DIPHTHERIA CONTROL IN VIRGINIA

The first campaign against diphtheria in Virginia by the use of toxin-antitoxin was held on Chincoteague Island in Accomac county during the year 1923. It was conducted by the State Department of Health in co-operation with the county health officer of Accomac county and the physicians of Chincoteague Island. Over one-half of the children on this island were immunized with toxin-antitoxin and, as a consequence, a marked reduction in diphtheria took place.

Following this campaign there were no large clinics held until June of 1926 when a campaign was put on in Brunswick county. Here over 4,200 children were immunized on the first drive and since that time the total for this county has been increased to 6,500. Here again a marked decrease in diphtheria incidence and deaths has been noticed.

Beginning in October, 1926, a campaign was inaugurated by the State Department of Health, and it was attempted to hold clinics for the administration of toxin-antitoxin to school children and, particularly, pre-school children in every county in the state. A publicity agent was taken on and additional physicians and nurses were employed for this purpose.

In conducting the clinics two methods were used: In 44 counties the local physicians administered the toxin-antitoxin. The state workers took care of the publicity, the arranging of the schedules and supplied a physician for the first week of the clinic, who helped the local doctors during this time. These

clinics were all arranged at a cost of 50 cents to the parents for the 3 injections of toxin-antitoxin, and in some instances the cost of the toxin-antitoxin was included in this 50-cent charge. In this manner, that is, with the local physicians administering the toxin-antitoxin, there were immunized over 44,000 children between October, 1926, and March, 1928. Although the private doctors were put to considerable inconvenience in making the schedule on time, most of them expressed themselves as quite satisfied with the work and quite willing to conduct future clinics.

In 47 counties of the state the local physicians preferred to have the work done by state workers. In these counties the clinics were held entirely free, or put on at a very small charge of from 15 to 25 cents per child for the 3 injections of toxin-antitoxin. In the 47 counties mentioned there were over 147,000 children who received the toxin-antitoxin. The total number of children immunized in the rural sections, and exclusive of the cities, during the time recorded is close on to 200,000.

Practically the same method was pursued in the conduct of all clinics. First, the superintendent of education was approached and his co-operation assured. A list of the schools in the county, both white and colored, was then secured and the schedules prepared. In most of the counties a clinic was held at every school and the whole county was covered in one week. It was necessary to allow a fourth week for the clinics, as the attendance was always increased materially in the second week. The schick test was not used, nor did we promise that we could schick test the children at a later date. Records were kept in which the name, age, color and the date of each injection was noted.

In an analysis of the records of 27 counties taken at random the age grouping was as follows:

% under 5 years	13.7
% 5-9 years	35.4
% to 9 years, incl.	49.1
% 10-14 years	34.4
% to 14 years, incl.	83.5
% over 14 years	8.7
% age not stated	7.8
Total	100.0%

Although the percentage of pre-school chil-

dren as shown by this table is low, it is very gratifying to notice that, roughly, 50 per cent of the total number of children immunized were under 10 years of age.

There are a few points of interest regarding campaigns against diphtheria. It has been our experience to find diphtheria prevention a very popular work in general. In very few counties were we disappointed with the results of our clinics. Where the co-operation of the county superintendent of education was assured, and also that of the local physicians the attendance at the clinics was always very gratifying. In many cases the total clinic attendance was equal to, or almost equal to, the average school attendance. Another interesting feature which we learned was the amount of work which could be done by one physician, provided the clinics were properly scheduled. It was not an uncommon thing for one of our clinicians to visit from 8 to 12 schools a day and to immunize from 500 to 700 children.

#### *Results of the Campaign*

It is not fair to claim too much from this one year's campaign against diphtheria. Our records for 1927, however, show a reduction in cases of 15.5 per cent and a decline in deaths of 34.2 per cent over 1926. Similar reductions have taken place in Virginia in years when toxin-antitoxin was not used extensively. In view of the fact, however, that diphtheria increased generally throughout the United States during the year 1927, and also that there are now well over 200,000 children immunized with toxin-antitoxin, it is felt that the marked reduction of 1927 over 1926 was due to the widespread use of toxin-antitoxin. Virginia for 1927 shows a rate of 5.9 per cent per 100,000, the lowest in her history.

In conclusion it is felt that this work of protecting children against diphtheria really belongs to the domain of the general practitioner, and that until this phase of preventive medicine is taken over by the physicians in general we can not expect a permanent decline in diphtheria.

#### TIME'S FOOTPRINTS

A historian announces that women used cosmetics in the Middle Ages. Women still use cosmetics in the middle ages.—*London Opinion*.

Few middle-aged men take up the bareheaded fad because they realize it is easier to check a hat than a cold.—*Louisville Times*

## PEDIATRICS

FRANK HOWARD RICHARDSON, M.D., *Editor*  
Black Mountain, N. C.

*For this issue* G. W. KUTSCHER, M.D.  
Associate, The Children's Clinic  
Black Mountain, N. C.

## THRUSH

Not until 1840 was any pronounced study made of this condition. Since that time, when the cause was discovered, the condition has been rapidly decreasing in frequency. The decrease is due chiefly to the greater cleanliness of the infant's mouth and everything that goes into its mouth. It is not a dangerous disease but when acting as a complication to any of the wasting diseases it clouds the prognosis.

Thrush usually occurs during the first few months of life, as the salivary secretions at that time are scant. It also accompanies such diseases as enterocolitis, marasmus, typhoid fever and catarrhal gastritis, which diseases likewise present a diminution of the salivary secretions. It may occur later in life in the neglected and sick child. Gastrointestinal disorders seem to predispose to its occurrence. It is very difficult, if not entirely impossible, for the disease to take hold in healthy mucous membranes. Slight abrasions of the mucous membranes, as produced by the rough cleansing of the mouth, favor its inception. The disease is infectious. It is carried by the rubber nipple as well as the unclean maternal nipple.

The organism causing the disease is one of the mold-fungus group; its exact place in the group has not as yet been decided. It has a fungus body with long mycelial threads; in the scrapings from the infected mouth these threads will be found to be interwoven with red and white cells, bacteria and epithelial cells. The organism is found widespread, in the air, and also in perfectly healthy mouths where it is not causing disease.

A slight abrasion in the mucous membranes of the mouth gives the organism a portal of entry. It then enters the epithelial layers and develops first beneath the superficial layers. The mycelial threads then penetrate to the deeper layers of the epithelium. Pus is never found except as due to a secondary invader. The organism may extend and involve the adjacent tissues down to the intestines.

The infection appears as small discrete to large coalesced white patches, with a reddened surrounding mucous membrane. These patches resemble milk curds and can be differentiated from them by the ease with which the milk curd can be removed. The dorsum of the tongue, the lips, gums, roof of the mouth and lining of the cheeks are involved. The patches are usually found in great numbers. Owing to the mechanism of growth (under the epithelial layers) when an effort is made to remove these patches with friction, a bleeding surface remains. When the patches become old and yellow they can be readily removed. The mouth is dry and the saliva is acid in reaction. This acidity is probably due to the organism, as the fungus grows best in an alkaline or neutral medium. Pain is produced which accounts for the difficulty in eating and nursing. Diarrhea may result which is often very troublesome, and produce an irritation of the buttocks.

In previously healthy children the duration of the disease may be only one or two days. Here the prognosis is excellent. On the other hand, in debilitated children the disease is obstinate. This is often due to the recurrence factor. Thrush adds to the already existing debility and often hastens a fatal ending. Laryngeal involvement calls for a guarded prognosis.

Prevention is the most important part of the treatment and is easily attained by cleanliness of the mouth as well as everything that goes into the mouth, including the maternal nipple. In the process of cleansing the mouth, nothing more coarse than moistened cotton should ever be used. In treating an attack, again frequent washing of the mouth is advised. This is done with well saturated cotton, not squeezed out of its excess quantity of fluid and thus acting as an oral irrigation. Alkaline solutions, such as 10 per cent borax, are used for irrigation as well as reducing the acidity of the mouth. This irrigation is followed by a fungicide such as 1 per cent formalin, 1 to 3,000 potassium permanganate solution; or mercurchrome. Honey and borax solutions of old are taboo, as the honey forms a most favorable culture medium for the development of the fungus. Yeast solution ( $\frac{1}{4}$  cake to  $\frac{1}{4}$  glass water) may be profitably used 3 to 4 times daily. A 1 per cent gentian violet solution may also be found beneficial.



## NEWS

### THE NORTH CAROLINA MEDICAL FOUNDATION

At its last meeting the Medical Society of the State of North Carolina created the North Carolina Medical Foundation and named the Wachovia Bank and Trust Company fiscal agent.

The purpose of the Foundation is to encourage gifts by will and otherwise for charitable purposes connected with the activities of the Medical Society. The Declaration of Trust states that, without limiting in any way the charitable purposes for which the funds may be used and merely by way of illustration, they shall be "available for assisting in promoting the science of medicine; in encouraging post-graduate medical instruction; in correlating medical activities; in helping indigent doctors and their families; in educating the public about medical matters; and in any and all other objects and causes that may in any reasonable way be construed as promotive of the interests of medical science and practice in the State of North Carolina."

The Foundation is authorized to receive gifts by will or deed or otherwise of property of any kind whatsoever. The distribution of the funds is in the hands of a committee named by the Medical Society and known as the North Carolina Medical Foundation Committee. The committee as now composed consists of Dr. J. P. Matheson, Charlotte, whose term of service is five years; Dr. M. L. Stevens, Asheville, four years; Dr. L. B. McBrayer, Southern Pines, three years; Dr. Chas. O'H. Laughinghouse, Raleigh, two years; and Dr. E. J. Wood, Wilmington, one year. The committee met in Raleigh recently and organized by selecting Dr. J. P. Matheson, of Charlotte, as chairman, and Dr. L. B. McBrayer, of Southern Pines, as secretary. According to this arrangement, one member of the committee will be elected at the session of the Medical Society each year. If the society should fail to act, vacancies in the committee may be filled by a special committee composed of the Governor, the Chief Justice of the Supreme Court, the Superin-

tendent of Public Instruction, the President of the State Board of Health, and the President of the Medical Society of the State of North Carolina.

The business management of the Foundation will be in the hands of the trustee who is given wide powers of investment and re-investment and shall make its report annually to the Foundation committee.

The purpose of the Foundation is to furnish a medium through which all those interested in the promotion of medical science and practice in North Carolina may contribute towards creating a great reserve fund in the nature of an endowment, the income from which will be available from time to time for such objects and purposes as appear then to be worthiest of assistance or promotion. Physicians and people generally now have the opportunity to leave in their wills gifts, large or small, or they may make gifts in money or other property, personal or real, for the promotion of the Foundation. Let it be understood that people generally, as well as physicians, may contribute to the Medical Foundation. They may leave their gifts undesignated, in which case the Foundation Committee will use its own judgment; or they may designate their gifts, in which case the Foundation Committee will follow instructions so long as it is practicable to do so and, if it becomes impracticable to follow instructions, the committee will use the gift for the object that appears to the committee most nearly to carry out the wishes of the donor.

The Wachovia Bank and Trust Company as trustee of the Foundation will give to the administration of the funds the same quality of safety and business-like administration as it does to the private trusts it administers.

The physicians of North Carolina in creating the Medical Foundation are falling in line with other groups who through Foundations are building up great reserve funds. The Baptist denomination of North Carolina, for instance, through the Baptist Foundation, has already a fund in hand of nearly \$100,000 and has gifts in prospect through wills and

trusts of more than \$1,000,000—gifts that will fall in for administration when the makers of the wills and the creators of the trusts die. Several of the leading cities of the State—Asheville, Winston-Salem, Charlotte, Salisbury, High Point, Greensboro, Raleigh—have Foundations to receive and administer gifts to and for community objects. The Kiwanis Club of Raleigh has a Kiwanis Scholarship Foundation which is helping to bear the school expenses of worthy boys and girls of Wake county. The Boy Scout Foundation of Raleigh is promoting the interest of the boy scouts of that city.

Through this Foundation, the contributors as they feel inclined, will gradually create a great reserve fund for the promotion of medical science and practice in North Carolina similar in its beneficence to the great Foundations like those created by Rockefeller, Sage, Carnegie, and Harmon.

A form of gift by will to the Foundation is as follows: "I give (here describe the property given) to the North Carolina Medical Foundation created by a resolution of the Board of Directors of the Wachovia Bank and Trust Company on May 15, 1928, and the Medical Society of the State of North Carolina and subject to the conditions set forth in that resolution to" (here name the object if it is to be a designated gift).

If the gift is to be undesignated and the Foundation Committee is to exercise its own judgment as to the purpose for which it shall be used, then the wording of the gift shall be as follows: "I give (here describe the property given) to the North Carolina Medical Foundation created by a resolution of the Board of Directors of the Wachovia Bank and Trust Company on May 15, 1928, and the Medical Society of the State of North Carolina and subject to the conditions set forth in that resolution."

#### ACCOMAC AND NORTHAMPTON MEMORIAL HOSPITAL

Dr. Donald Daniel, whose term as resident surgeon at the allied hospital of the Medical College of Virginia expired on June 30th, has taken charge of the newly completed community hospital at Nassawadox on the Eastern Shore.

The Accomac and Northampton Memorial Hospital, as the new institution is called, is

the culmination of years of effort to provide the 60,000 citizens of the Eastern Shore territory with hospital facilities and overcome the barriers of distance and lack of transportation facilities that have hitherto made it necessary for people in that section who needed hospitalization to be transported by water across the bay to Norfolk or even to Philadelphia.

The new hospital is a sixty-five-bed institution and has been completed at a cost of \$140,000. Drs. Willis and Johns, of the Johnston-Willis Hospital, Richmond, have been requested to organize the hospital staff and supervise the professional side of the institution for a period of five years.

Dr. Donald Daniel, who will be surgeon in charge, will have associated with him at Nassawadox, Drs. Cary Henderson and John Richard Hamilton, both of the Johnston-Willis Hospital staff.

#### OCTOGENARIAN TAKES COURSE

Dr. R. H. Jones, of Winston-Salem, who is 80 years old and has been practicing his profession in this state for 53 years, is taking the post-graduate course in dentistry which the University Extension Division is offering this year. Dr. Jones is the only surviving charter member of the State Dental Society, which was organized in 1875.

DR. EDWIN P. LEHMAN, of Washington University, has been elected professor of Surgery and Gynecology in the Medical School of the University of Virginia, to succeed Dr. STEPHEN H. WATTS, who has retired from active teaching. Dr. Lehman is also chief surgeon at the St. Louis City Hospital.

DR. SIDNEY WILLIAM BRITTON, of Johns Hopkins University, will become professor of physiology to succeed Dr. HOMER W. SMITH, who has resigned to become professor of Physiology at New York University.

DR. ROBERT E. LUTZ, of New York University, will be associate professor of Chemistry.

MISS ADELAIDE M. MAYO has been named assistant professor of Nursing Education.

REAR ADMIRAL P. M. RIXEY, 75, former surgeon general of the Navy, died at Rixey, Va., June 17th.

DIPHTHERIA which claimed 16.1 lives out of every 100,000 in RICHMOND three years ago has been controlled to the point where the death rate from the dreaded disease in 1927 was only 5.7 lives per 100,000 of population, according to Dr. W. Brownley Foster, director of public welfare.

Through the use of toxin-antitoxin the disease which had been steadily mounting for over twelve years in Richmond has been cut down to the point where the low death rate has been attracting the attention of other cities throughout the country and numerous inquiries are being received at the public health offices regarding the methods used by Richmond in its battle against diphtheria.

For the twelve years prior to 1925 diphtheria showed a steady increase in Richmond and the mounting death rate reached its peak in 1925 when the rate was 16.1 deaths from the disease to each 100,000 of population.

In that year the city health department initiated a campaign against diphtheria through the use of toxin-antitoxin as the best method of immunizing people against the disease. While this was the only new method of control undertaken it has been apparently an effective one.

DR. CHARLES L. SUMMERS, 64, former Winston-Salem physician, died in a Baltimore hospital July 15th. Interment was in Salem cemetery.

Dr. Summers, who at one time was one of the outstanding physicians of the state, had been residing in Baltimore for about ten years.

He was born near Statesville, studied at Bingham Military School and at Davidson College, and received his degree in medicine at the University of Maryland. He did post-graduate work at Johns Hopkins University and at Vienna and Berlin, specializing in children's diseases. In 1918 he was chosen head of the children's department of the University of Maryland. Dr. Summers organized and operated a free baby clinic at the University of Maryland.

Dr. Summers' death followed a major operation, which he underwent seven weeks ago.

DR. V. K. HART, Charlotte, and MISS NOEL PRIDGEN, Elm City, were married June 29th.

DR. ALAN R. ANDERSON, who has been under treatment at Saranac Lake, N. Y., for several months, is so far recovered as to be able to accept a position on the staff of Trudeau Sanatorium, Saranac Lake. Dr. Anderson is a son of our Dr. Tom Anderson, of Statesville.

DR. W. F. HYDE, 45, died June 22nd, at his home at Middleburg, Augusta county, Virginia.

DR. S. A. RHYNE, Statesville, and Miss LOUISE FOX, Mt. Airy, were married July 1st.

DR. C. A. JULIAN, of Greensboro, N. C., has been appointed general medical director of the Greensboro Life Insurance Company. Dr. Julian is also a member of the board of directors.

DR. J. F. ABEL, Tenth District Councillor of the Medical Society of the State of North Carolina, of Waynesville, has recently received a commission as surgeon for the interests of the Southern Railroad in his section.

THE SOCIETY OF AMERICAN BACTERIOLOGISTS will hold its annual convention in Richmond in Dec., with several hundred delegates from every section of the United States and Canada, it was announced at the meeting of the advertising committee of city council.

AUTOMOBILE ACCIDENTS in North Carolina killed 47 and injured 365 in May.

DR. R. U. ZIMMERMAN, Lexington Route 4, lost his home by fire June 24th.

DR. ENNION G. WILLIAMS completed June 30th twenty years of service as Health Commissioner of Virginia. In that time typhoid has been reduced by seven-eighths and the tuberculosis death rate halved. A unique distinction is his continuance in an appointive position under five governors. This anniversary marks the occasion for the paying of many tributes to Dr. Williams' worth by the Virginia papers.

DR. E. C. LEVY, formerly chief health officer of Richmond, Virginia, and who for three years has held the same office at Tampa, Florida, has returned to Richmond.

DR. HAROLD GLASCOCK, of the Mary Elizabeth Clinic, has returned after several weeks' study at the Cleveland Clinic, Cleveland, Ohio.

DR. POWELL G. FOX, of the Mary Elizabeth Clinic, is on a four months' leave of absence in order to study Urology with Dr. B. A. Thomas, of Philadelphia.

DR. CLARENCE C. JONES, 53, for thirty years a practicing physician at Staunton, Va., died recently in a local hospital. Dr. Jones was graduated from the Maryland Medical College in 1903.

DR. HAMILTON W. MCKAY, Charlotte, has resigned from the Crowell Clinic and opened offices on the sixth floor of the Professional Building for the practice of Urology and Genito-Urinary Surgery.

#### SUES CHIROPRACTOR

Raleigh, June 20.—Charging that newspaper advertisements which described him as "cured" and carried picture of the defendant instead of the plaintiff, J. R. Sechrest, traveling salesman, has filed suit for \$20,000 alleged damages against Dr. F. T. Hoff, chiropractor.

Sechrest alleged the advertisements held

him to ridicule, hurt his business and caused insurance companies to regard him as a doubtful risk through false statements that he had suffered from neuritis. — *Hickory Record*, June 21.

Down at Kinston last week a worthless dog skulked into the yard where an innocent child was peacefully playing. Running to the dog in a most gleeful way, with no worse intentions than stroking it, the animal, evidently vicious by nature, sprang upon the child and mutilated its face in a most horrible manner. The child's nose was bitten off, according to the news dispatch telling of the horrible occurrence.

The owner of that worthless hound should be made to suffer for allowing him to run unmuzzled. No one should be excused for allowing a vicious dog like that to run at large, and he who does, should fully account for all injury caused by it.—*Stanly News-Herald*.

But the maudlin sentimentalists will weep over muzzling a dog.—*Ed*.

DR. P. P. MCCAIN, Sanatorium, addressed a group of citizens of Rowan county interested in a tuberculosis hospital for the county on July 7th.

DR. RUFUS H. REITZEL, of Siler City, and MISS JESSIE JAMES, of Richmond, Virginia, were married in Washington, D. C., March 10th.





# SOUTHERN MEDICINE and SURGERY

VOL. XC

CHARLOTTE, N. C., AUGUST, 1928

NO. 8

## A CONSIDERATION OF THE PRE-ANEMIC FEATURES OF PERNICIOUS ANEMIA

J. P. SCHNEIDER, M.D., Minneapolis

From the Department of Medicine, The Nicollet Clinic.

The clinical syndrome which we recognize as idiopathic pernicious anemia is a terminal event in a pathological process, having its origin in heredity, its tell-tale footsteps showing throughout the life cycle of the individual. Meulengracht's masterly analysis<sup>1</sup> of the genotype in pernicious anemia and the work of George Draper<sup>2</sup> force upon us the necessity of accepting the hereditary factor as fundamental. Since the disease follows some law of heredity, and since, as the literature reveals more complete familial studies, the actual incidence approaches the ideal incidence, we begin to understand such startling facts as those recently published by MacLachlan and Kline<sup>3</sup>, and Dorst<sup>4</sup> of Cleveland. The former have found this fatal anemia occurring in four generations, with thirteen deaths and four patients still living. Dorst details five instances in one family; a mother and four children. In my own experience, I have repeatedly seen two, and once three members of a family succumb to this disease. It is certain that as the future reveals far more facts pointing to the hereditary character, our knowledge of the disease in all its variations will enable us to link together the familial factors, which would be entirely meaningless if taken from the hematological view alone.

With the hereditary features of the disease in mind, it is important to determine what evidence the evolution of the disease presents from youth on to the age of greatest incidence, which is forty-seven years.

At the very onset we are confronted with the character of the achlorhydria which is

present, without exception, in every patient suffering from this disease. Is this also hereditary and therefore present at birth, or is it acquired, according to the view of Faber?<sup>5</sup> My search of the literature reveals no study made of children which is sufficiently thorough, either as to the number of cases studied, or the type of material. The question must remain open until an adequate study is made of the new-born. It is definitely established, however, that achlorhydria is often present decades before the final anemia or characteristic cord changes appear. In one instance in the literature,<sup>7</sup> secretory gastric studies made twenty-five years before the onset of the disease showed a total absence of acid. In my experience, fifteen years have elapsed in one instance, and ten years in another, between the discovery of the gastric deficiency and the onset of the anemia. These are data based upon objective findings.

I wish to emphasize the fact that the clinical history of a vast majority of the patients reveals evidence of the lack of acid. Again and again the history shows that as the patient comes under his first stress or strain, frequently during his college years, he experiences his first periodic attacks of bowel looseness. Dr. R., a dentist aged forty-five years, had his first diarrheal attacks during examinations in his twenty-first year. Thereafter the attacks occurred on gross irregularities in his diet, or at times of great tire or mental strain, and the tendency has persisted to date. In the female, the history often shows that the first looseness occurs during the lactation period of the first pregnancy.

It is a significant fact that patients who have gone to the tropics during the years when achlorhydria was present have found that they experienced more than the ordinary amount of bowel looseness and were already found to harbor such parasites as *trichomona intestinalis* and flukes.

During the twenties and early thirties there appears another objective phenomenon to which I would draw your attention. In many instances, beginning as early as twenty years of age, and as late as thirty-three, the skin shows the onset of areas of leucoderma with intermingled areas of hyperpigmentation. This is most frequently noted first on the forearms and lower legs. Later it develops on the upper arms and upper legs, and usually appears last on the trunk. Only once have I seen it involve the face. Coincident with this skin pigmentation disturbance is another very constant objective phenomenon, that of premature greying of the hair. This latter phenomenon is decidedly familial in its distribution, and is so constant a finding that if I find hair of a splendid dark color in a female ill with pernicious anemia, I suspect that it is dyed, and the patient will eventually admit that this is true. It is probable that these skin changes are closely related to the reticulo-endothelial alteration occurring throughout the life cycle of the individual.

We often find recurring attacks in the patient's history, beginning as early as ten years before the onset of the definite syndrome, which he likes to call "bilious attacks." Briefly, he experiences a day of malaise, loss of appetite, and sense of gastric fullness with or without nausea, and the next day or two notes that he has a sallow appearance. In a few instances very observing patients have noted the presence of dark brown stools and a darker than usual urine. These attacks were well described many years ago by Syllaba<sup>6</sup> and are undoubtedly acute hemolytic waves, insufficient in degree to register in the hematological field.

Not unlike the primary herd in tuberculosis or the chancre in syphilis, in its diagnostic significance, is the first attack of glossitis. We owe our knowledge of the frequency of this initial glossitis to William Hunter.<sup>7</sup> In a recent personal communication from Hurst, of Leeds, England, he stated that he has frequently diagnosed pernicious ane-

mia by the presence of a recurring glossitis, before any of the earmarks of the hematological entity have made their appearance. I have encountered glossitis in two instances five years, and in another three years, before it was possible to detect the terminal event. If the lesion does not go beyond the mucosa the patient will not stress his tongue history unless it is directly sought for. If, however, the lesion exposes the submucosa he will come to the physician with his tongue history as the major and sometimes the only complaint, aside from stomatitis and pharyngitis attacks.

In seeking for glossitic lesions I would draw your attention particularly to the marginal areas of the tongue as well as the under surface in the neighborhood of the ranine artery, where often the only redness and swelling are to be seen. It is difficult to explain just why the dorsum of the tongue is smooth and flat, for I have very seldom seen a lesion sufficiently extensive to involve this area. The explanation probably lies in the fact that the lesions are thrombotic in character, involving the branches of the ranine artery. The clinical fact that the patient can frequently name the exact day on which the tongue suddenly began to pain him is in accord with this theory.

While the tongue with a history of previous attacks is under direct observation, I occasionally find very red areas one or more centimeters in size on the buccal mucous membrane, although the tongue at that time has only the residual atrophy. Not infrequently a patient may come to the nose and throat specialist with a pharyngitis which is of this character.

The evaluation of esophagitis, gastric, bowel and rectal attacks of inflammatory invasion is naturally difficult, since the diagnosis depends entirely upon subjective data and our knowledge of the post-mortem lesions reported in these areas, except in the case of the rectum, where I have seen a very bright red mucosa and in which a typical pernicious anemia appeared within several months.

The German literature has given us numerous instances in which pernicious anemia is preceded by a polycythemia lasting from several months to two years before the anemia becomes apparent. I have had the ex-

perience of making such a snap diagnosis after a preliminary physical survey, only to find that while the blood picture was that of polycythemia there was present a well-advanced posterior-lateral cord lesion, which is of course not present in Osler's disease. The patient within a year had to be transfused.

Finally, it is to be borne in mind that the characteristic cord lesion may develop and advance to a high degree without the patient's manifesting the hematological features of pernicious anemia. In 1919 I had the opportunity of studying such a patient in the Out-Patient Department of the University Hospital, from October until the following May, making bi-monthly blood studies. While he was an excellent tabetic in his gait, he did not until May show any of the classical features of the anemia. It is true that duodenal pigment studies showed a pathological degree of hemolysis, but it did not register in the blood pool. There are in the literature numerous instances of achlorhydria with posterior-lateral cord lesions reported. In

my experience in the course of time an anemia will develop which may, however, be minimal even at death, and which in these cases not uncommonly occurs from an infected bladder, the usual final complication of the patient with an advanced cord lesion.

1009 Nicollet Avenue.

#### REFERENCES

1. Meulengracht, E.: Hereditary factor in pernicious anemia. *Am. J. M. Sc.*, 169:177-175, February, 1925.
2. Draper, George: *Human Constitution*. W. B. Saunders Company, 1924.
3. MacLachlan, W. W. G., and Kline, F. M.: Occurrence of Anemia in Four Generations. *Am. J. M. Sc.*, 172:533-543, October, 1926.
4. Dorst, S. E.: Familial Pernicious Anemia; Achlorhydria as Dominant Etiologic Factor. *Am. J. M. Sc.*, 172:173-185, August, 1926.
5. Faber, K.: Etiology and Pathogenesis of Achylia Gastrica. *Am. J. M. Sc.*, 172:1-11, July, 1926.
6. Syllaba, L.: Concerning the Pathogenesis of Pernicious Anemia. *Arch. gen. de med., Par.*, 1904, 2:2369-2401.
7. Hunter, W.: *Severest Anemias; Their Infective Nature, Diagnosis and Treatment*. London, 1909.



## THE THERAPEUTIC USE OF OXYGEN IN PNEUMONIA\*

PAUL H. RINGER, A.B., M.D., Asheville, N. C.

The therapeutic use of oxygen in pneumonia has assumed a position that justifies an inquiry into its rationale and modes of administration.

Prior to the World War there was indifference as to its use and skepticism as to its value based, in all probability, upon the absence of an effective method for its delivery to the patient. During the war, thanks to the Haldane apparatus, such good effects were observed from oxygen in phosgene and chlorine poisoning that enthusiasm was revived and has since waxed steadily.

The object of administering oxygen is to overcome anoxemia (lack of oxygen in the blood). Cases of chronic anoxemia are common, occurring in congenital and acquired heart disease, during residence in high altitudes, etc.; but the acute and dangerous form of anoxemia occurs most frequently and with the greatest severity in pneumonia, and "it is here that oxygen therapy is most urgently indicated." (Barach).

*The main symptom of anoxemia is cyanosis.*

That past master at scientific clinical bedside observation, the late C. F. Hoover, of Cleveland, discusses admirably the question of cyanosis in lobar pneumonia. He says: "In lobar pneumonia there is always a certain amount of cyanosis. It is a common thing to see a patient with lobar pneumonia who has pronounced cyanosis and, although the patient has moderate hyperpnea, he will deny any sensation of air-hunger.

If the flow of blood through the consolidated lung is maintained, then the outflowing blood from that lung or portion of lung must be *venous* blood. "The superventilation of the uninvolved portion of the lung will compensate for the increased carbon dioxide contributed to the aortic stream from the consolidated lobe, but superventilation of the uninvolved parts of the lung will not compensate for air-hunger in lobar pneumonia. The cyanosis from the hepatized lung. In this mechanism we see an explanation for cyanosis without

air hunger in lobar pneumonia. The cyanosis is due to anoxemia and not to methemoglobin, for when the shed blood is exposed to atmospheric air it immediately takes on the normal color of shed blood. The anoxemia is not in any way associated with the infection. It is due purely to the admixture of unventilated blood with the aortic stream. When pneumonia terminates in crisis, cyanosis persists, and finally disappears just as the exudate is absorbed and ventilation of the affected lung is resumed." (Hoover).

Hoover holds it to be true that the presence of moisture in the lung has much to do with the benefit or lack of benefit to be derived from oxygen inhalation. He says that if one lung is hepatized and the other lung contains no moisture, the patient will have pronounced cyanosis with superventilation, but he will not admit that he has air hunger. "If such a patient is given pure oxygen to breathe, cyanosis is unaffected. But if the patient has one lung hepatized and an abundance of moisture in the remaining portions of the lung, then the inhalation of oxygen will partly diminish the cyanosis, but the experience of air hunger is unmodified - - -. A patient who is cyanotic from both lung consolidation and moisture in the air spaces will benefit from the inhalation of oxygen *so far as anoxemia derived from the edematous lung is concerned*, but he will not benefit by anoxemia so far as the consolidated lung is concerned." This is a valuable point with regard to when to exhibit oxygen. It stands to reason that in a hepatized lung the inspired oxygen cannot reach the blood circulating in that lung and no good can be expected from that quarter. It is evident that an unrespired flow through solid lung is the cause of the anoxemia, and that this anoxemia is not greater is probably due to a slowing of the circulation throughout the consolidated area mainly through inhibition of respiratory movements.

To quote Hoover once more: "It is a common experience to find patients with pleurisy with effusion sufficiently large to completely eliminate the lung of the affected

\*Read before the Buncombe County Medical Society, July 16, 1928.



side from respiratory function, and yet the patient may not have the slightest trace of cyanosis." I may add that this is also universally the case in complete compression after the induction of an artificial pneumothorax, for in the compressed lung, whether it be due to fluid or air, there is not only want of ventilation but also a great diminution in the volume of blood going through the compressed organ. Consequently there is little or no venous blood poured into the left ventricle. This point of view will explain the want of cyanosis in many chronic tuberculous lungs, and on the other hand will also explain the presence of cyanosis in acute miliary tuberculosis.

Considerable space has been devoted to this question of anoxemia, but as it is the target for the oxygen it was felt that its cause should be well understood.

During the administration of oxygen in cases of pneumonia there are three signs which usually indicate improvement. These are:

1. Degree of cyanosis.

Barach in speaking of cyanosis in pneumonia says: "Cyanosis - - is thus dependent on the character and stage of the lesion rather than on the actual extent of lung involvement. The major cause appears to be the presence of edema, local or widespread, manifested in the parenchyma of the lung or in the bronchial tree, and so susceptible of relief by increased pressures of oxygen. The minor cause is that of an unrespired blood-flow through consolidated pulmonary tissue, and is insusceptible to relief by oxygen. Both conditions are more likely to be present in broncho-pneumonia, and for that reason cyanosis is here more common and more severe than in lobar pneumonia." It is seen that Barach reaches practically the same conclusions as does Hoover.

2. Pulse-rate.

This is usually slowed. Slowing of the pulse-rate occurs in normal persons under oxygen administration, but in individuals with anoxemia the slowing is more pronounced. It may range from 6 to 20 beats per minute.

3. Mental condition.

More lucid cerebration is a good sign.

The respiratory rate is not as a rule affected.

### *Methods of Administration of Oxygen.*

The first requisite for the efficient administration of oxygen is to know how much should be given for optimal results; the second is to possess an apparatus that will supply this amount regularly and consecutively.

The normal inspired air contains about 21 per cent oxygen. It has been determined that the percentage of oxygen in the inspired air should be from 30 to 60 per cent before the gas can be considered an efficient therapeutic agent. Forty per cent seems to be the optimal concentration for good results. Seventy per cent is the uppermost limit of safety, for it has been found that animals exposed to higher concentrations die from serous pneumonia.

#### *Apparatus:*

A. *Tube and Funnel* which is held in front of the mouth. This method, the oldest, is also the least efficient. With oxygen flowing from the tank at the rate of two liters per minute, analysis of air in the naso-pharynx has shown variations in oxygen content of from 19 to 22 per cent. The funnel method can be discarded as hopelessly inadequate.

B. *Nasal Catheter.*

This is the method most frequently used in private practice, and one which can be made to attain a very decided grade of efficiency. Two small catheters are used, the distal end of each (from the patient) being connected to the arms of a Y tube, the stem of which, in turn, is connected with the tube leading from the oxygen tank. The proximal extremities of the catheters should have three or four small holes cut into them. They should be passed along the base of the nose (one in each nostril) until their tips touch the posterior pharyngeal wall, then withdrawn half an inch and fastened to the forehead by adhesive plaster. Oxygen should then be allowed to flow through them at a given quantity per minute in order to be able to calculate the percentage of oxygen saturation in the air the patient is getting.

The degree of oxygen saturation can easily be calculated from:

1. The tidal air
2. The respiratory rate
3. The amount of oxygen administered in liters per minute.

For example: "If 1,000 c.c. of oxygen per

minute is run into the nasopharynx, the amount inhaled is the portion that runs in during inspiration, the exhaled air obviously containing the oxygen run in during expiration. If the rate of respiration is 40 per minute, the oxygen added to each inspiration is  $\frac{1}{2}$  by 1/40 by 1,000 c.c., or 12.5 c.c. If the tidal volume is 300 c.c. the oxygen content of the inhaled air is 63 (21 per cent of 300) plus 12.5, or 75.5 c.c., or 25.2 per cent of the inspired air. Thus, when the nasal catheter is used with oxygen bubbling fairly vigorously, the oxygen concentration of the inspired air is 25.2 per cent. If oxygen is admitted at the rate of 2,000 c.c. per minute, a large amount for a nasal catheter, the oxygen percentage of the inspired air is in this instance 30.6 per cent." (Barach).

It is highly desirable to employ high pressure oxygen tanks in order to assure a constant rate of flow. The low pressure tanks cannot be regulated at a given flow because the diminishing pressure results in gradually lessened output. Furthermore low pressure tanks are not equipped with a gage and their expense, if two liters of oxygen per minute are desired, is almost prohibitive. In a short paragraph in one of his articles, Barach deals with the question of expense so clearly that its quotation is desirable.

"This [the expense] aspect of the question is of importance both from the standpoint of the hospital and that of private patients. - - - At 2 liters per minute the oxygen consumed in twenty-four hours is 2,880 liters, or 103 cu. ft. There are in general three common low pressure tanks available, large, medium and small size. In the medium size the charge to the hospital is 8.7 cents per cu. ft., or approximately \$9 for one day's treatment to one person, and \$63 for one week. For the small size the charge is 13.5 cents a cu. ft., or approximately \$14 for one day and \$100 for one week. With high pressure oxygen either in the large or small size tanks the charge is 1.55 cents a cu. ft., or \$1.60 a day and \$11.20 for one week. In outside private practice, the cost of low pressure oxygen tanks may be three or four times as much, whereas high pressure oxygen costs only one-half again as much as the hospital charge. Furthermore, a large low pressure tank would have to be charged four times in twenty-four hours, a medium size tank eight

times, a small low pressure tank ten times, and a *small high pressure tank only once*. A large high pressure tank at the same rate of flow; i. e., 2 liters per minute, lasts more than two days.

The disadvantages of the high pressure oxygen tank are the increased weight and the fact that a reducing valve has to be attached to the tank before it is used. - - - With all types of high pressure oxygen tanks care in adjustment of the reducing valve is necessary to prevent accidents."

#### C. Oxygen Tent and Re-breathing Apparatus.

This is at present the best method of administering oxygen therapeutically, save of course the oxygen room or chamber which has to be specially constructed, is very costly, and is impracticable outside of a large general hospital. While it is the ideal, its impracticability is such that no further reference will be made to it.

The rebreathing apparatus consists in the main in the presence of soda-lime to absorb the expired carbon dioxide and thus allow the rebreathing of oxygen.

Barach and Binger a few years ago devised a portable tent which encloses the entire patient in bed, is equipped with four windows, and is ventilated by a closed circuit power box which accomplishes the removal of carbon dioxide, moisture and heat. It secures comfort for the patient and provides for the precise regulation of the oxygen concentration desired. Barach, some two years ago, reported a series of cases treated with gratifying results. Of ten cases treated in the tent, seven recovered. The series is of course too small to be of statistical value but the results are encouraging.

Latterly Barach and Roth have suggested an improved apparatus which is now being sold by Warren E. Collins, 584 Huntington avenue, Boston, under the name of the "Roth-Barach Oxygen Therapy Apparatus." It consists, briefly, of a tent of rubberized silk material with large celluloid windows and a celluloid roof. A rolling standard holds the tent and the main body of the apparatus. Ventilation is supplied by a fan and a small universal motor constructed for this purpose. By means of a rheostat ventilation may be varied from 30 to 150 liters per minute. On the stand are two large containers, one for

soda-lime and one for ice and also the oxygen tank. The air is passed over the ice which cools and dries it at the same time. "The technic of operation is simple. The tent piece is lifted over the patient, the rubberized silk material is folded under the pillow behind and at the sides, and the front part is drawn under the sheet across the patient's abdomen. The soda-lime and ice containers have previously been filled. The motor is turned on so that it runs in midposition; i. e., approximately 60 liters a minute. The air is drawn from one side of the hood at the top to the fan, passes through the soda-lime and into the ice container. The air is thus deprived of its carbon dioxide, cooled and dried. - - - After leaving the cooling can, the air enters the hood, where it is distributed by two perforated aluminum tubes which are adjustable so that the air can be directed toward or away from the patient at will. The oxygen is turned on at the rate of 6 liters per minute for five minutes, and then reduced to 2 liters a minute. As a rule this maintains a concentration of 40 per cent oxygen within the tent. - - - The oxygen should be analyzed every three or four hours by the simple oxygen analyzer described by Binger, and the carbon dioxide by the Higgins and Marriott phenol-sulphonephthalein solution. The apparatus should also be equipped with a reducing valve especially calibrated to deliver oxygen in liters per minute. High pressure oxygen is used because of its decreased cost. The expense of operation is approximately \$8 a day for soda-lime and oxygen." (Barach.)

This apparatus is portable and can easily be set up in a private home. It represents in my opinion the most practical and efficient method for the therapeutic administration of oxygen.

My own experience with oxygen in pneumonia has not been extensive and has been entirely confined to the catheter method. I have used it in cases other than pneumonia but will make no mention of them. Nine

cases of pneumonia were treated with oxygen in addition, of course, to other measures. Of these nine cases, five died and four recovered. It must in all fairness be stated that two of the five fatal cases were moribund when oxygen was started. In inserting the catheters I did not follow (as I will in the future) the method suggested by Barach, of passing the catheter far back into the nose, nor was I able to control or estimate the percentage of oxygen saturation of the inspired air, as only low pressure tanks were available. I feel therefore that oxygen therapy in my hands has been hitherto rather crude, but I purpose to remedy some of the defects in the future. Nevertheless, I am satisfied that even such oxygen therapy as I have been able to employ has been of sufficient benefit to warrant faith in the method and confidence in its efficiency under more ideal conditions. Oxygen is not and never will be a curative treatment for pneumonia. It is in the main a supportive measure to enable the patient to tide over a critical period. Digitalis, morphia, eternal watchfulness and careful nursing are and will continue to be our standbys. The new polyvalent serum seems to have some, though not many, advantages over the serum so much used for type *I* pneumonia. The wise use of oxygen combined with the most efficient apparatus for its administration and a thorough knowledge of its powers and of its limitations, will, I feel sure, in the future save many lives that would otherwise have been lost.

44 Grove Street.

#### BIBLIOGRAPHY

- Hoover, C. F.: Oxygen Therapy. *J. A. M. A.*, 71:880 (Sept. 14) 1918.
- Barach, A. L.: The Therapeutic Use of Oxygen, *J. A. M. A.*, 79:693 (Aug. 26) 1922.
- Barach, A. L.: Methods and Results of Oxygen Treatment in Pneumonia, *Archives of Internal Medicine*, 37, 186 (Feb.) 1926.
- Barach, A. L.: A New Oxygen Tent, *J. A. M. A.*, 87:1213 (Oct. 9) 1926.
- Haldane, J. S.: Therapeutic Administration of Oxygen, *Brit. M. J.*, 1:181 (Feb. 10) 1917.
- Barach, A. L., and Binger, C. A. L.: A Portable Oxygen Tent., *J. A. M. A.*, 85:190 (July 18) 1925.





## PELLAGRA\*

M. EUGENE STREET, M.D., Glendon, N. C.

The kindness of the program committee in assigning me to deliver an address on pellagra, instead of having me present a set scientific paper on the subject, gives me greater privilege and latitude than if the assignment had been that of the usual essay. I shall not indulge in time-consuming recapitulations of the theories of the nature, etiology and pathology of pellagra, for none of these is definitely known. We do know that pellagra usually develops in the undernourished. But so does tuberculosis. We know, however, that tuberculosis is caused by a specific organism, and not by undernourishment *per se*.

The sudden invasion and spread of pellagra in this country less than a quarter of a century ago argues against its being caused by undernourishment alone. And we know that the forty-five years immediately preceding the occurrence of pellagra was a period during which the people of the south were subjected to much greater privations and undernourishment than they have been subjected to since the appearance of pellagra in 1907. Although the true nature, etiology and pathology of pellagra is unknown, what is of very great importance is the fact that the cure of pellagra is definitely known. Pellagra is the easiest of all serious chronic diseases to cure. My experience has convinced me that pellagra is a disease which should not have a death-rate. I admit this one qualification and exception, and that is when pellagra attacks a person with advanced Bright's disease, or other incurable malady of asthenic nature.

The unknown poison of pellagra expends its force upon the nervous system, causing degenerative changes. There used to be talk of a "pre-tubercular" stage. Some, with greater or lesser failure, have attempted to describe such a stage of tuberculosis. I, profiting by their example, am not going to attempt to describe the "pre-pellagra" stage. But it is a fact that when the frank lesions of pellagra first show themselves the disease

is already in the far advanced stage; for degenerative changes have already taken place in some parts of the nervous system.

In the past twelve months I have seen more than two hundred patients with pellagra. They came from ten different North Carolina counties. The range of age was from five years to seventy years. Eighty per cent of them had been afflicted with the disease from three to eight years, and nearly every one of these gave the information that he had been regularly getting hypodermic injections for his pellagra. A wise physician nearly thirty years ago advised the doctor to throw his hypodermic syringe into the well the first thing when called to treat a case of appendicitis. I will paraphrase and say: "Doctor, when you go to treat a case of pellagra, throw your hypodermic syringe into the well the first thing you do."

Two of the pellagra patients I saw in the past year had far advanced Bright's disease. They both died of uremia. They both had been getting the hypodermic treatment for pellagra. I have more than a suspicion that the arsenic injected into them was the cause of their deaths. I had one other patient that died of pellagra. This patient had long been getting the hypodermic treatment, and had reached the convulsive stage of pellagra. It is said that when a pellagra patient reaches the convulsive stage that case is hopeless. With the present light we have on pellagra, I wish to unqualifiedly condemn the practice of injecting arsenical preparations into pellagra patients. I am inclined to believe that the convulsive stage of pellagra is caused by arsenical poisoning instead of by the disease itself.

When it is a fact that the usual treatment of pellagra by the medical profession is the employment of hypodermics of arsenical preparations, a treatment insufficient and inefficient, it is no wonder that so many sufferers from pellagra turn away from physicians and apply to advertising quacks and charlatans; and no wonder that so many of these advertising quacks and charlatans flourish. The time has come when the physician who essays

\*Presented to the Medical Society of the State of North Carolina, meeting at Pinehurst, April 30th, May 1st, 2nd and 3rd, 1928.



to cure his pellagra patients by pumping arsenicals into them shall not feel that he has discharged his obligation to his pellagra patients; when he can no longer fool the public into believing that he has given his pellagra patients a square deal by such a procedure.

We now come to the main and primary matter of this address; namely, the treatment of pellagra. Any physician of ordinary ability can treat pellagra as successfully as I or anybody else can. There are, and never can be, any pellagra experts. If you hear of any such individual, you may know that there is no such animal, any more than there is such an animal as a tuberculosis expert.

The treatment of pellagra is medicinal, hygienic, and dietetic. Give medicines that will stimulate the appetite and digestion, build up the blood, heal the nerve and other lesions and restore nerve function. Arrange the best hygienic conditions for the patient that circumstances will permit. Prescribe in detail a suitable diet that is within reach of the patient.

For the mouth, stomach, and bowel lesions, I have found no other one drug so satisfactory as the U. S. P. fluidextract of hydrastis. And I usually give it in the following combination:

Flext. hydrastis, U. S. P. oz. iii.

Flext. semin. apii graviensis oz. i

Bis. subgal. oz. ss.

Elix pepsini. lac. q. s. oz. viii.

M. Sig. Shake well and take teaspoonful in half glass of water three times a day, before meals.

I also give quinine, strychnine and gentian before meals, and one grain metallic iron and one-fiftieth grain arsenious acid after meals. Individual circumstances and habits of living are inquired into, and when any change of habits is deemed essential the patient is so advised. If there be diarrhea, acid sulph. aromat. m. xxx., t. i. d., a. c. is prescribed, for an adult. This acid has never disappointed me in controlling the diarrhea of pellagra, no matter of how long standing. One patient who came to me from Greensboro four years ago told me that he had had the diarrhea for six years, and that no treatment had ever controlled it: the sulphuric acid stopped it, and he is living in Greensboro today, and has never had any return of pellagra or diarrhea.

When the medicines are prescribed, I then

tell my patients very frankly that all the physicians and all the medicines cannot cure them unless the patients do their part. When they want to know what their part is, I tell them that it is to eat such things as are necessary for them to eat to get well of pellagra. I advise at least six ounces of fresh meat a day, and at least three pints of sweet milk a day, along with beans and peas, fresh green vegetables and graham bread. Fresh pork and fresh fish, in my experience, are not good for the restoration of pellagra patients. Shell fish, I find, are an excellent diet for pellagra.

Now it so happens that the majority of the pellagra patients I see are too poor to get the necessary fresh beef and sweet milk. So it becomes necessary to help contrive a diet that will answer the purpose, and be within the reach of these patients. I tell them that if they cannot get the beef, to eat six ounces or more, every day, of chicken, sheep or goat mutton, squirrel, rabbit or bird. And I impress upon them the necessity for this if they expect to get well. Eggs are always prescribed, also.

I have no desire or disposition to knock the Red Cross; it is a great and necessary organization. But neither the Red Cross nor any other civic or charitable organization has ever helped a single pellagra patient of mine to the extent of a nickel. And I have no doubt but that in many counties there are individual physicians who do more Red Cross work every year than all the balance of the population, leaving out the physicians. And still the balance of the population taxes the physician twenty-five dollars a year for the privilege of doing this charitable work. Is it right?

A few months ago I had a very desperate case of pellagra in Asheboro where I had to furnish money for nearly two months to see to it that that patient got the necessary diet. This, in addition to furnishing free trips over forty miles, and all medicines. I speak of this here only because such things as this are done by physicians somewhere in the state every day in the year.

I do not question the benefit of yeast that Dr. Joseph Goldberger has found by his painstaking research work, but in my experience with pellagra patients I have found yeast so entirely unnecessary that I am con-

vinced that it would be a cruel exploitation of poor people for them to be required to buy yeast cakes, or yeast tablets, or any other preparation of yeast.

#### SUMMARY

1. Pellagra kills twice as many people in North Carolina a year as automobiles kill. Both these causes of mortality are unnecessary and are avoidable; and are undesirable, except in the cases where reckless and drunken drivers kill themselves to the safety of the public.

2. Uncomplicated pellagra should not have a death rate.

3. The faithful employment of the therapy and management of pellagra as given in this address will cut the mortality rate from pellagra at least fifty per cent in North Carolina the first year it is employed, and within five years the mortality from pellagra in North Carolina should be reduced by such management to zero.

4. It requires at least twelve months to cure the nerve lesions already present in pellagra after all the skin signs have disappeared, and in many cases, more than twelve months.

## SOME EXPERIENCES IN REPLACING UTERINE RETROVERSIONS

With a Description of My Method

J. H. HIDE, M.D., Pungoteague, Va.

There are few things in the general practice of medicine that have given me more satisfactory results than my method of replacing a retroverted uterus. This is especially gratifying when I have observed the difficulties that many other physicians of my acquaintance have had in their efforts to render this kind of service. Indeed, I have found that many physicians are not only lacking in skill in this line of work, but that they seem to think they should not be expected to be skilled in this department, and hence have practically consigned it to the specialist in gynecology.

In my early medical days soon after I entered active practice I became greatly interested in this subject and tried earnestly to familiarize myself with the various methods in vogue. These consisted mostly in the bi-manual method, those involving the kneechest position, and those involving the introduction of sounds and the like into the uterus, with the idea of assisting our manual efforts in the replacement. With a little experience in this work I soon found that practically all the methods involving the use of instruments were generally unsatisfactory for obvious reasons; the bi-manual method being the safest and the least objectionable in the average case. This method, though often quite successfully used in cases of slender women with thin abdominal walls, in opposite con-

ditions is often quite difficult and sometimes exceedingly painful. Indeed, I have seen patients in my own practice who had undergone, in the hands of others, most painful experiences by this method, protest most pitifully when I suggested to them that I ought to replace the uterus. Just here I recall a case in which a physician of experience was attempting to replace the retroverted uterus of his own married sister by the bi-manual method, and her screams were so violent that he was compelled to give up the process, and send his sister to a noted gynecologist in Baltimore to be relieved. Some years afterwards I was called in to see the same woman, suffering again with the same trouble, and to her great surprise, had no difficulty in replacing her retroverted uterus without any pain.

Again, another case of much interest, I recall, in which the patient—a woman of about 48 years of age, suffered for years with uterine retroversion associated with pelvic congestion. Her physician had caused her so much pain in attempting to replace her uterus (without success) that she became despondent and got the reputation of being a neurasthenic. When called to see this case it was with great difficulty I could get her consent to allow me to replace the uterus, as she felt sure I would only give her great pain. It is sufficient to say here that her uterus was

easily replaced and, with a little treatment of her pelvic congestion, she was restored from bed-ridden invalidism to good health, and was again able to enjoy social life, and even to do a fair amount of household work. This case, moreover, had been at different times under the care of several physicians, and had even been operated upon for her retroversion by a noted gynecological surgeon of Baltimore, and had been sent home as cured. Unfortunately the retroversion returned, and the trouble seemed only aggravated. I may add here also that this case is one of a number that have been so relieved by conservative measures, namely, the replacing of a retroverted uterus followed with appropriate medical treatment, after more radical measures in the hands of able surgeons had been less successful. In making this statement I do not wish to be understood as depreciating the work of others, or to be reflecting upon radical surgery; but only to be encouraging the general practitioner to give closer attention to what he should learn to do well in the department of conservative gynecology. Indeed, I am fully aware that there are certain cases of complicated uterine retroversions that are very unsatisfactory to treat by any conservative measures: examples are those bound down by well-organized adhesions; those in which the utero-sacral ligaments are severely damaged by former obstetrical forceps operations; those of long standing with more or less inflammation of adjacent structures with pronounced prolapse; those associated with various morbid pelvic disorders, as uterine fibroids, pus tubes with extensive adhesions, ovarian cysts and severe chronic viceroptoses. In all of these cases the physician should be careful to make a painstaking examination and know quite well his field before attempting to replace the retroverted uterus. At any rate he should undertake no forcible measures or any rough manipulations when in doubt of the general condition of the pelvic organs and their adnexa. Moreover, when he finds a retroversion complicated with any of the above mentioned serious conditions, it may be better for him to consign the case to a more experienced gynecologist. The average case, however, should be properly handled by himself, and he should be ever ready to administer aid to the simple cases before they develop the

many complications that naturally follow neglect.

Again, among the varied complications that are sometimes found with these simple cases of uterine retroversion, one of the most interesting to my mind has been retroversion with pregnancy. I have had several such patients appeal for aid when in the third month of pregnancy, or what appeared about that time. These patients were suffering desperately with nausea, and no medical aid was successful to relieve their frequent spells of vomiting. Among such cases two I recall as especially interesting and instructive. In each case the patient was relieved almost like magic when I replaced her retroverted uterus. Moreover, both cases went on to term without further trouble.

Now a word about my method of replacing the uterus—it may be called a mixture of the bi-manual and the old knee-chest method without the use of any instruments, or simply a modification of the latter. Place the patient either in bed, or on a large, suitable table, in the dorsal position. Cover patient with a sheet, and facing her while standing to her right side, place your hands over her abdomen, grasp the uterus through the abdominal wall and press it as low in the pelvis as is consistent with comfort: then, relaxing the right hand, introduce its forefinger into the vagina and pass it up to the uterine cervix. Here the finger will first come in contact with the posterior surface of the uterus. Just above this point you will find the external os, and when this is found pass your finger back until you feel the anterior side in this posterior position. Now press this part of the organ down to the lowest point possible in the direction of the lower part of the sacrum, and hold it firmly in this position. At this stage in the process direct the patient to turn on her left side, and from this position direct her to change slowly and carefully to the knee-chest position. Just here, while you keep her covered with the sheet to avoid embarrassing exposure, still hold the uterine cervix, pinned down with the forefinger of your right hand, to the lower part of the sacrum. Now, when your patient is properly fixed in the knee-chest position, as the intestines fall forward in the abdomen producing the desired vacuum, push the uterine cervix backward and upward, following the curve of the



sacrum, and you will find the fundus of the uterus falling forward, missing the promontory of the sacrum, and assuming a position in the pelvis almost over the bladder. Now while still pressing on the uterine cervix as far up as possible hold your position until your patient can raise up upon her knees in the upright position. This action allows her intestines to fall back behind the uterus and assist in retaining this organ in its new position. All this must be done before you relax your hold upon the uterine cervix. When you have finished the replacement you will find yourself on the left side and a little behind your patient while she is in the upright position upon her knees. The patient can now be allowed to get up or assume any position that is most comfortable to her. As a rule, however, I prefer for her to rest for awhile upon one side or the other.

In giving the above directions in regard to the patient's efforts to change her position at your suggestion in the different stages of the process of the replacement, it may be well to suggest that you watch your patient carefully and assist her, or better still, let the nurse, if one is present, assist her in maintaining her balance while changing from one position to another, especially, in changing from the knee-chest position to that of the upright upon the knees.

This method of replacing a retroverted uterus may appear on paper something a little complicated and embarrassing; but when skilfully put into practice it is neither. Indeed, it may be surprising to the inexperienced to see how quickly and easily it is all done, and usually without pain or even a murmur from your patient.

Again, occasionally you will find that a uterus seems to fit a little closely in the posterior part of the pelvis so that the fundus is obstructed by the promontory of the sacrum when it (the uterus) should make the forward turn, following the vacuum that is produced by the forward falling of the intestines. In such a case you need not become discouraged in your effort at replacement. A little persistence will usually overcome every obstacle. Simply direct the patient to assume again the erect posture upon her knees, and as the uterus falls low in the pelvis, repeat the process, as she again assumes the knee-chest position, as above given. Sometimes I have made several efforts before I could get the fundus of the uterus to slip by the promontory of the sacrum, and the organ assume its correct position. Even in these cases it usually takes very little time, and the process is not very disagreeable.

But once more, this method of replacing a retroverted uterus, I have found so easy and so generally successful that when it ever fails me I feel sure that I am not dealing with a mere uterine retroversion, but also with either pronounced uterine or adjacent pelvic adhesions, or some other obstructive, pathological conditions. In such cases radical surgery is obviously the proper course to be recommended.

In presenting these practical experiences in dealing with uterine retroversions I trust the reader will not regard this essay as an unkind criticism of the average family physician in this department of our professional work, but rather as an effort to arouse among us greater efficiency in the mechanical skill of this very important service.





## PAGES FROM THE MEDICAL HISTORY OF A SINGLE COUNTY\*

GEORGE M. COOPER, M.D., Raleigh, N. C.

At a meeting last December of the Sampson County Medical Society at Clinton, when called on for some remarks, I casually mentioned a few items in the medical history of Sampson county. Somewhat to my astonishment, most of what I had to say was news to nearly all those present, including members and visitors, among the latter, the president and secretary of the North Carolina Medical Society. I have been urged to put in writing, in a brief sketch, some of this neglected history. I am therefore cataloguing in a spirit of reverence and as concisely as possible the record of achievements of some of those men whose memory deserves to live in the history of this state. I at first contemplated extending the scope of this paper to cover the records of some of the more important of the exiled sons of Sampson who are still living and writing their history from day to day in the living records of the present. I find, however, that for numerous reasons that is not practicable aside from the consideration of time and space required to publish. Therefore, with a single exception, I shall confine this effort to a consideration of those whom Charon has piloted over to the other shores.

Man is essentially a cruel and selfish brute. To a great extent, many of us seem as indifferent to the passing of our confreres as the animals of the herd. As a people, we have been careless in many respects about the records of many of our great characters who have lived and worked for the betterment of their fellows during the past century or so. The medical profession has seemed just as indifferent as the rest of our population. Too often the friends and even the relatives of men who have done much in life for their section have the attitude toward their fallen comrades, expressed by the two traders discussing Ralph Waldo Emerson. He was great according to the "proppity" he had amassed or the political office he had held. It is true that the passing of some of our

great ones has been overchronicled by the zealous recipients of the deceased's favors; but many of the most worthy could exclaim with Rip Van Winkle, "How soon we are forgotten when we're gone."

I have recently made a diligent search for data on the professional and official life of one of the ablest and most useful men who ever adorned the North Carolina medical profession. My search has produced only a few meagre details aside from what I have been able to glean from the files of my own memory.

The man I refer to is the late Dr. C. Tate Murphy of Clinton, N. C. Dr. Murphy was born across the Sampson line in Pender county, June 20, 1827. However, he spent most of his life in Clinton and Sampson county; and died in Clinton, January 8, 1882. His service to his state was probably as distinguished and as important in a threefold capacity as that of any physician in North Carolina living during the last half of the nineteenth century.

First, he was a successful practitioner of medicine.

Second, he was an influential member of the State Senate for two terms in an epochal period—1870 and 1872.

Third, he was chairman of the State Board of Charities and Corrections.

In his capacity as physician he helped organize and legalize the State Board of Medical Examiners about 1859. He refused to be a member of the first or second board, because he felt with those who expressed in one of the State Society meetings and recorded in the Transactions many years later that "the law as it was first recorded was emasculated and hardly worthy of acceptance on the part of the memorialists." But it was a beginning. And it is interesting to note that the first old law of 1859 really was known as the law "incorporating the State Medical Society and the State Board of Medical Examiners." However, after Dr. Murphy's two terms in the Senate where he so distinguished himself in behalf of progressive

\*Presented to the Medical Society of the State of North Carolina, meeting at Pinehurst, April 30th, May 1st, 2nd and 3rd, 1928.

legislation, a grateful society elected him to membership on the third Board of Examiners where he served with eminent success the full six year period from 1872 to 1878. Dr. Murphy practiced his humanitarianism. On his tomb in the Clinton cemetery is inscribed the single line, "A Poor Man's Friend." I once asked an old man there if that was the literal truth. "My God, yes," he replied. About one year before his death the Governor proposed that the State Board of Health, which had been organized formally, and legalized by act of the Legislature of February 12, 1877, be coalesced with the Board of Public Charities. The proposal was placed in Dr. Murphy's hands for decision. He wisely decided that the field of activities of the two should forever remain separate. To his influence in the two terms he served in the Legislature and the power he was consequently able to exert as a member of the Examining Board, much credit should be given him for the organization of the State Board of Health. Dr. Thomas Fanning Wood said of him sometime before his death that "he had ever been an ardent supporter of the State Board of Health, until failing health ended his career."

In the compilation of records of all the members who have ever served on the Board of Examiners, his is the only name with one exception, whose home address is not given. The custodians of the records never even knew where he lived,—one of the greatest of them all. Notwithstanding all of Dr. Murphy's great service to the State Board of Health, to the medical profession, and to the people of the state, I can find no record of an obituary notice anywhere in the Transactions following his death. It may be in there and I have overlooked it, but a careful search of a copy of the Transactions for 1882 reveals no obituary report. The meeting that year was held in Concord, North Carolina, in May and was the most fully reported and best attended meeting held up to that time. In the following year, 1883, the State Society met on May 16th at Tarboro. The words of the chairman of the Obituary Committee for that year have a familiar and plaintive sound: He regretted that he "could not get the information necessary to make a full report." There had been "misunderstanding, neglect or indifference, on the part of friends of de-

ceased members." There is nothing said in the Transactions that year, and the irony of that report is that the chairman was a colleague and contemporary practitioner in the same town with Dr. Murphy. However, in extenuation it may be said that he was not the chairman of the Obituary Committee the year before, which should have recorded the death of Dr. Murphy. Dr. Murphy was never president of the State Medical Society. He was too modest to push himself forward when other men among his confreres sought the office. He was always glad to support any effort in the interest of his friends. The profession in North Carolina can boast of no more able representative, past or present, than C. Tate Murphy of Clinton.

According to the late Dr. W. H. Whitehead of Rocky Mount, a Sampson county surgeon, Dr. Allman Holmes of Clinton reported the first successful removal of an ovarian tumor in this state. The operation was done at Clinton on February 25, 1882. On the 16th of the following May at the meeting of the State Medical Society at Tarboro in 1883, Dr. Holmes formally reported the account of the operation in a classical paper under the title of "Successful Removal and Recovery of a Multilocular Encysted Ovarian Tumor." Dr. Holmes was a distinguished surgeon of his section. He held numerous committee assignments, but was too modest to seek elective office in the State Society. He was a gentleman of the old type. Modesty was to him an active virtue.

Dr. David Dickson Sloan of southern Sampson was a contemporary of Dr. Holmes. Prof. Alexander Graham of Charlotte is authority for the statement that Dr. Sloan held the record of doing a successful cesarean section on the same woman twice. Dr. Sloan was for many years active in the affairs of the society, but like Dr. Holmes never sought elective office.

A most striking coincidence—or was it a coincidence?—in the medical history of the State of North Carolina is that at the same time, about the close of the nineteenth century, the State Hospital for the Insane at Morganton and also that at Raleigh were under the direction of native sons of Sampson county. At the same time the first assistant at the negro institution at Goldsboro and later for twenty years its efficient head was

also a native of that county.

Dr. P. L. Murphy, who organized and founded the hospital at Morganton and remained its first and only superintendent until his death, was a thoroughly competent alienist and a man of the highest type. He was born and reared a few miles south of Clinton. He served for six years as a member of the State Board of Medical Examiners, and was president of the State Medical Society in 1897. The life and record of Dr. P. L. Murphy have received ample consideration in the records of the State Society. He was fortunate in having such friends as the late Dr. Lewis, who realized the importance to posterity of accurate records concerning the official and professional lives of their members.

Dr. George L. Kirby, who was superintendent of the Central State Hospital for the Insane at Raleigh from 1894 until his death, February 19, 1901, was born and reared near Clinton. Dr. Kirby was educated at the old Clinton Male Academy and took his degree from the Long Island Hospital College in New York in 1860. He served faithfully as a Confederate army surgeon during the war between the states. Following the close of the war Dr. Kirby located in Goldsboro, where for twenty-nine years he was one of the most successful practicing physicians of his time. During his term of office as head of the State Hospital his administration was characterized by efficiency and broad humanitarianism. He was much beloved by the unfortunate patients as well as by their families and friends. He was an elder in the Presbyterian church, a man of upright life and always loyal to his friends. His son, Dr. George H. Kirby, is today one of the most distinguished authorities on mental diseases in New York City. Although he served a six year term as a member of the Board of Medical Examiners, he never held other office in the State Medical Society except numerous committee assignments. He never sought office nor honors for himself when he could advance the interests of his friends.

The third member of this distinguished group of alienists, Dr. W. W. Faison, was born and spent his early life on the ancestral acres near Clinton. From 1883 until the death of Dr. Miller in 1906, Dr. Faison was first assistant physician in the State Hospital for the colored insane at Goldsboro. At Dr.

Miller's death Dr. Faison became chief of the institution and served until he died, October 22, 1926. Thus for forty-three years he labored to improve the condition of the unfortunate negro insane. A prosaic life but one entirely suited to a man of his mental habits and high ideals of service. He was in no sense a medical politician; and so never held an office in the State Medical Society although well qualified for any office within the gift of the society. As a result of his wisdom and industry the Goldsboro institution holds high rank among its class. He was a man whom it was an honor to call friend.

There were several members of the distinguished Faison family in northeastern Sampson who were physicians of widely recognized ability. The most notable of this long line of physicians, with the exception of Dr. W. W. Faison, mentioned in the foregoing paragraph, may be said to have been Dr. I. W. Faison of Charlotte and Dr. John M. Faison, who lived and practiced at Faison, North Carolina, across the Duplin county line near where he was born in Sampson. Dr. I. W. Faison was president of the North Carolina State Medical Society in 1918. His death being comparatively recent, practically all the members of the society remember with pleasure his activities. He was a fine, upstanding type of physician, one of the most successful pediatricians in the state, a man of pronounced convictions and the courage to back them up. His service for many years as an iconoclast in the State Medical Society was a worth while one, and stimulated the society to healthful progress. He was nearly always a constructive critic. He was a rough and ready debater, and was always amply able to take care of himself, in any oratorical combat. He despised fraud and hypocrisy wherever he found it, but especially was it anathema to him when he encountered it in any physician.

Doctor Henry W. Faison, of Faison, who died many years ago, was also a distinguished physician, and served the State Medical Society with an unflinching loyalty, although he never held high office in its ranks. As an example of Dr. Henry W. Faison's foresight, wisdom, and sound judgment, the Transactions of the State Medical Society meeting in Asheville in May, 1881, recorded the opposition that Dr. Faison conducted in behalf of



Dr. Thomas Fanning Wood against a resolution asking the society to reimburse Dr. Wood for his duties as secretary of the North Carolina State Board of Health. Dr. Faison made the point that if the State Medical Society assumed the prerogative of financial support of the State Board of Health, the Legislature would be glad to continue to let them do it. In the first place, he pointed out in his argument, for and in behalf of Dr. Wood, that the principle was fundamentally wrong. How wise he was we all know well enough now. The appropriation annually for the work of the State Board of Health at that time was \$200. Dr. Wood, however, was valiantly carrying on and doing the pioneer work in the establishment of the necessary background for whatever of success may have been achieved in later years by the State Board of Health.

Many of the members of the present society remember Dr. John M. Faison of Faison. He was a member of Congress from the Third Congressional District for two terms. He conducted a weekly paper at Faison known as the *Faison Journal*. He outwrote Joe Daniels or Judge Clarkson on prohibition. As politician, member of Congress and as newspaper owner and editor, he really outworked the late Chief Justice Clark on the subject of railroad transportation. He rendered distinct service in Congress to the cause of the trucking industry in eastern North Carolina. It is interesting, in the light of the recent bitter controversy over the disposal of Muscle Shoals, that Dr. Faison's chief service in his term in Congress from March 4, 1911, to March 4, 1915, may be said to be his bill asking for an appropriation of fifty thousand dollars to extract nitrogen from the air for agricultural purposes. He was much ridiculed, but finally he won a five thousand dollar appropriation to test the value of his ideas. This test was carried out in one of the stations near Washington. The test was successful, as we may know by everybody wanting Muscle Shoals today. Until Dr. Faison assumed his duties in Congress he kept up a very large and extensive general practice in the region around about Faison. It was my privilege to consult with him on more than one occasion. He was not only a first-class physician, but he was a great humanitarian. He extended his sympathy and professional

skill to the sick and distressed on every hand. He had a thoroughly sound primary education in the old Faison Academy, Davidson College, the University of Virginia, and finally as a medical graduate of Bellevue.

In the southern part of Sampson county at the little railroad station known as Kerr, on the railroad between Fayetteville and Wilmington, passengers on the train looking out of the window a few yards from the station may see a tall granite monument, costing perhaps twenty-five hundred dollars, which is, so far as I know, the only monument ever built in this state to the memory of a family physician by his patrons. This monument was built by donations from pennies to dollars, by negroes, whites, rich and poor, after the death of Dr. Charles S. Kerr, who had practiced medicine in that section of the county for forty years. Dr. Kerr, when able to travel, had never refused a call. He was beloved by all classes of people. He was an able physician and sympathetic friend, and when he died his grateful patrons, over an area of many miles, voluntarily brought in their contributions to the committee and this splendid monument was erected to the memory of their family doctor. If there is another instance of like kind occurring in the State of North Carolina I do not know it.

There are many other names whom I would dearly love to place in this chronicle, but most of them will have to await another chapter to this paper. Such names, however, as Dr. Henry A. Bizzell, grandfather of Judge Henry A. Grady, and his brother, Dr. James A. Bizzell, both beloved practitioners of Clinton for many years, should be included in this list. The name of Dr. A. M. Lee, a beloved family physician who practiced medicine in the town of Clinton for sixty-three years and died only a few years ago, is another name that should be added to the list. Dr. John Monk of Newton Grove was a Jefferson graduate, and died in 1877, leaving a record of pioneer work. Dr. R. H. Holliday, an Englishman who volunteered as a surgeon in the Confederate army and after the close of the war practiced medicine in the county for many years west of Clinton and later did an office practice in Clinton and who did more to encourage the young physicians of that county in the beginning of their work than any other



man to my knowledge, should have a place in this record.

The record of the younger men who have recently died, after achieving success in that section, is well enough known to need no further recording here. I cannot, however, close this paper without making one exception to consider only those who have passed over. I refer to the record of Dr. Jacob Franklin Highsmith, who is still living and in his prime. Dr. Highsmith has been president of the State Medical Society and served for six years on the Board of Medical Examiners and has

built and equipped the new Highsmith Hospital in Fayetteville, which is undoubtedly one of the most complete modern hospitals anywhere. We hope that Dr. Highsmith will have many more years to add to his already brilliant achievements.

I think I have recorded enough to establish the fact that the medical history of Sampson county is sufficient to inspire to worthy efforts all the living exponents of the profession who have to acknowledge Sampson county as their native or adopted home.

THE SEASONAL INCIDENCE OF APPENDICITIS

DOUGLAS P. MURPHY, M.D., Philadelphia

From the Surgical Service of the Rutherfordton Hospital, Rutherfordton, N. C.

The present paper deals with the seasonal frequency of acute and chronic appendicitis, as it varies from month to month. Two thousand and thirty-one patients, operated upon over a period of twenty years, form the basis for the accompanying diagram.

Royster (Royster, H. A. Appendicitis. 1927. D. Appleton. New York.) quotes Deaver, as saying that "he has found the largest number of cases occurring in the summer, with the spring next, attributing this to the increased frequency of intestinal disorders during those seasons." Royster himself states that "We have noticed an accession of cases in the spring and in the early autumn, next in summer, least in winter."

Forster (Forster, U. Ueber Appendicitis und Witterung. Beitr. z. klin. Chir., 1923, cxxviii, 377-394.) analyzed twenty-one hundred and fifty cases of appendicitis occurring over a period of ten years. He studied the questions of temperature, barometric pressure and humidity for this period of time, for the locality in which these cases were observed. He then came to the conclusion that the seasonal changes had no definite etiological relationship to appendicitis. His curve of appendicitis frequency, however, was very similar to the one presented here.

He collected and presented curves of four other observers. These latter curves had few points in common with his curve or the one presented here. The high and low points of

Forster's curve and those reviewed by him were as follows:

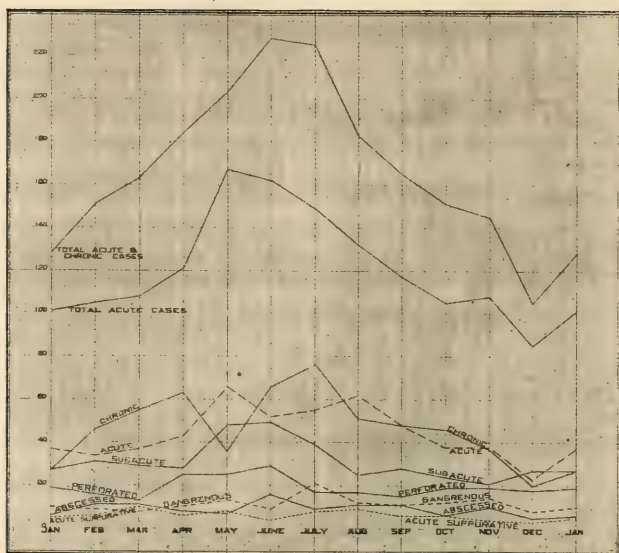
	High Point	Low Point
1. Forster	June	November
2. Other author	April	January
3. " "	July	December
4. " "	January	November
5. " "	April	January

There appears to be more agreement between the low points of these five curves and our own curve, than is the case between the high points. Since the four curves quoted by Forster are extremely irregular in direction, and not at all like Forster's curve or our own, it is quite possible that other more important factors enter into the regulation of appendicitis frequency, than the seasonal influence alone.

Material for accompanying chart:

This chart was constructed from figures secured from a study of the histories of a group of patients, diagnosed and operated upon in the Rutherford Hospital, between the years of 1907 and 1927. The diagnoses were first grouped according to the degree of appendiceal involvement, and then regrouped according to the months during which the patients were admitted to the hospital.

Curves were constructed for each diagnosis made. The various types of acute appendicitis were then totalled and a separate curve was made for them. Also a curve was plotted which represented these cases together with the chronic cases.



Showing the monthly incidence of appendicitis, plotted according to the nature and degree of the appendiceal inflammation, representing a total of two thousand and thirty-one cases, covering a twenty-year period. The lower seven curves represent the chronic and acute degrees of inflammation, plotted according to their nature and relative severity. The uppermost curve represents a total of the figures forming the basis of the seven lowermost curves. The second curve from the top is a total of the curves representing the six varying degrees of acute appendicitis.

#### *Analysis of Chart*

The uppermost curve represents the entire group of cases studied here. Its outstanding features are: the percentage increase between December and June and its rather unusual symmetry.

The increase in the frequency of cases as the summer months approach, suggests that there must be some seasonal influence at work in bringing about this change. This seems to be especially true, when it is seen that the curve for the chronic cases presents very much the same general direction as does the curve which represents the acute cases only. The drop in May, in the chronic curve, can only be explained on the ground that planting time in the country requires all hands in the fields.

It is rather difficult to explain the nature of the curves, as observed in this chart, from every standpoint. The patients represented both sexes, every age and every financial con-

dition. Treatment was given when needed, regardless of the financial condition of the patients. Most of them lived within one hundred miles of the hospital, and in a climate which has very little seasonal variation, compared with many parts of the United States.

Farming is the chief occupation of these people although many of them live in small towns and quite a number are cotton mill workers. The increased amount of muscular work required on the farm in summer would not account for the persistent and gradual increase in the frequency of appendicitis during the winter months, starting as early as December. Nor would the diet account for the change in the curve during these winter months.

There is no doubt whatever concerning the fact that appendicitis is more frequent in certain months, as shown by the accompanying curves. There seems to be some factor or group of factors, operating to bring

about this seasonal variation in frequency, not only in the incidence of the acute cases, but also in the case of the chronically diseased individuals. With our present knowledge, concerning the environment of the patients forming the basis of this study, we are unable to determine the nature of the cause

or causes operating, to produce the changes indicated upon the accompanying diagram.

*Note:* The author is indebted to Drs. Henry Norris and M. H. Biggs, of the staff of the Rutherford Hospital, for the privilege of reporting the observations recorded in this paper.

4211 Sansom Street.

## SEVERE VOMITING RELIEVED BY DUODENAL FEEDING

D. HEATH NISBET, M.D., Charlotte, N. C.

That the duodenal tube is of great value in conditions other than draining the gall-bladder, making stomach analyses and treatment of gastric and duodenal ulcers is recognized. In any cases where fluids are necessary, it offers the simplest method of getting in large quantities without particular discomfort to the patient or over-loading the circulation and embarrassing the heart as is possible in intravenous infusions. In comparison with the murphy drip it is more valuable as the fluid is put directly into the small intestine and has the advantage of coming in contact with its vast absorptive area and if any should escape absorption here, we still have the large intestine to take it up.

The equipment required is very simple, consisting of an ordinary duodenal tube and tip and a 1 or 2 oz. glass syringe. The tube can be easily boiled and a complete sterile outfit is not required. If the tube is passed far down into the jejunum, no fluid is lost nor can it be expelled as often happens in proctoclysis. On the other hand, it is wellnigh impossible, unless there is a high obstruction in the intestine, for it to be regurgitated or vomited to any degree.

There is very little difficulty in getting even very sick patients to swallow a duodenal tube. By swabbing the throat with a 1 or 2 per cent cocaine solution and waiting two minutes, the gag reflex is usually excluded from the picture.

Another aid is grasping the tongue, pulling it out of the mouth and with the duodenal bucket on the tip of the finger, to push it down the throat so that it can be easily engaged. When the tube reaches the stomach, any residue is removed and that organ thor-

oughly washed out. The patient turns on the right side and swallows the tube to the duodenal mark and, in 20 minutes to two hours, the tip will pass into the duodenum. Its presence here is usually recognized by a return of yellow bile or, if water is injected, it is usually not recovered by syphon.

The following case illustrates my points:

A married woman, 26, was seen in consultation January 18, 1926. She gave a history that several months before she had begun a reducing diet which was rather strict. A week ago she began to vomit and has continued vomiting every meal since. When I saw her there was a slightly sweetish odor to her breath, although the material regurgitated contained bile and was very foul. There was no hyperpnea, the lips were normal in color, skin was dry and dehydrated, the face was thin, cheeks somewhat sunken and she was evidently very sick. Abdomen was soft and distended with gas. Stomach was ptosed, somewhat dilated and ballooned up around the umbilicus.

Complete laboratory tests had been made and revealed a moderate secondary anemia, the presence of albumin, hyaline casts, diacetic acid and acetone in the urine. X-ray of the gall-bladder was negative for stones.

Everything thought of had been tried without any marked results including all kinds of nutrient enemas and preparations by mouth. For six days the vomiting continued except for a few hours at a time. Her condition had become critical, she was markedly emaciated, and had an acidosis and her resistance was greatly lowered.

On January 26th a duodenal tube was swallowed, stomach thoroughly washed, and in three hours, the tip of the tube was in

the duodenum. Fourteen ounces of water was injected slowly and 15 minutes later she became nauseated and vomited 8 ounces of bile, mucus and water. This showed us that the tube was not far enough in the jejunum and it was passed several inches further. During the night she was given 2 ounces of water through the tube every 30 minutes. The next morning the change in her condition was remarkable, the skin was moist and elastic, subcutaneous tissue was filled out and she had changed from a very ill person to one who looked almost well. The tube was kept in place for four days and during this time she was given frequent feedings of water, albumin water, peptonized milk, mixtures of milk, egg and sugar, fruit juices and

some cooked cereal. When the tube was removed the same type of diet was continued, with the gradual addition of soft solids, and a gradual return to a normal diet was accomplished within a week when she was discharged from the hospital in good condition.

A diet omitting the heavier types of foods, as fried meats, pork products, rich pastries and sweets, coarse vegetables, etc., was continued for several weeks. She has remained well to date.

The use of the duodenal tube in this case was a life-saving procedure. All other types of feeding had failed. This gave rest to the stomach and at the same time supplied sufficient food and liquids for her body needs.

#### A CASE OF TULAREMIA

Wm. Allan, M.D.  
Charlotte, N. C.

Although the first case of tularemia to be recognized east of the Mississippi was reported in this journal by Dr. Lucius G. Gage<sup>1</sup> of Charlotte, only three other cases have been reported from North Carolina, according to the map of distribution shown by Surgeon Edward Francis, U. S. Public Health Service, at the last meeting of the American Society of Tropical Medicine. Between 30 and 40 cases have been reported from South Carolina where tularemia is either more prevalent or more promptly recognized.

*Case Report:* Dec. 20, 1927, I saw with Dr. Annie L. Alexander a white woman, aged 30, who had been sick 19 days. Her trouble started with fever and aching and about the fourth day a red spot appeared over a left epitrochlear gland which rapidly became a large painful subcutaneous swelling. A gland the size of a walnut appeared in the right axilla; no other glands were palpable. At the end of the second week, the leucocytes numbered 14,500 the urine was normal. After

having continued fever for two weeks, the patient was afebrile for two days and then began to have chills and fever irregularly. The patient was somewhat pale and rather weak, but except for the enlarged glands in the right axilla and left elbow the physical examination was negative. There were small cuts over the knuckles of both hands which did not seem to be healing. She gave the history of having three days before the onset of her present illness dressed some rabbits shot by her husband in Mecklenburg County, 15 miles north of Charlotte. The negro cook who had helped prepare these rabbits also had abrasions over the knuckles of both hands, but singularly enough showed no signs of illness. The patient returned to complete health after a slow convalescence lasting about three months. Blood taken February 3, 1928 was reported by Dr. Francis to agglutinate *bacterium tularense* in dilution of 1:1280.

This is the second case of tularemia due to the rabbits of Mecklenburg County.

1. Gage, L. G. *Southern Medicine and Surgery*, 35:253 (May), 1923.



## THE CLINICAL LABORATORY OF THE SMALL HOSPITAL

W. G. GAMBLE, JR., M.D., Charleston

Medical College of the State of South Carolina

This is the day of the small hospital. Soon each progressive community will boast its local institution. In fact, apparently, the golden age of community health is on its way. The inhabitants of the rural district, and smaller communities, can now give their loved ones the same care and comforts formerly enjoyed by their city cousins. What will be the final result of this mushroom growth of hospitals? No man can tell, and any attempt at prophecy is pure speculation.

It is conceded that the conduct and efficiency of the community hospital is an index to the intelligence of its physicians. Heretofore, the operating room, its equipment, management and personnel were objects of rules, regulations and standardization. Lately another department has come under the eyes of those who set standards. The American College of Surgeons and the American Medical Association are bending their efforts towards dependable laboratories. They are now beginning to require adequate laboratory service in hospitals bearing the stamp of their approval.

They have and will again, this year, propose several changes, among which are inspection of laboratories and a certain percentage of autopsies. This is excellent, for, unless medicine is studied rationally by the rank and file, there can be no progress, however heavily endowed our research institutions.

Many think that laboratory training has been over-stressed in the teaching of medical students; that elaborate methods have been propagated to the neglect of clinical observation. A number of physicians are of the belief that medicine is becoming too mechanical and less human, that the salvation of medicine lies through the study of the patient as an individual and less with glittering glassware. This is true in part. Yet under modern conditions, the microscopist and chemist play their part; and they with the clinician must progress side by side towards that unattainable summit—perfection.

Hence the small hospital must have its laboratory.

In this article the large laboratory is not

considered. It should be under the direction of a capable and experienced clinical pathologist, and problems here differ. A smaller hospital operating with minimum capital, heavy overhead, situated in the average county seat, having from 20 to 50 beds, has a laboratory problem which is really acute. These especially need to be served by a reliable laboratory.

We admit that cost of equipment and personnel has in the past sometimes prevented the utilization of this aid to diagnosis. The latter factor—cost of personnel—is still a problem and, hence, will be but lightly touched on in this paper, as it is far from being settled.

Expensive laboratory equipment has been the bugbear of physicians and hospital superintendents. Consequently, numerous laboratories have only part of the necessary equipment. Appliances and supplies cost at the beginning. Then, provided one has bought wisely and well, the upkeep is small. The initial cost will be more than offset by improvement in hospital efficiency, and gain to the patient.

During the past four years, the writer in visiting many hospitals large and small, has noted with surprise that it was in the laboratories of the smaller institutions that much unnecessary, forgotten, or dusty, obsolete equipment was seen; that chemicals are wasted by excessive buying and deterioration. Why is this? Probably there are several reasons. The most obvious is that many hospitals, as yet, assign the junior member of the house staff to the laboratory. Many usually feel this as a reflection on their intelligence, laboratory work being distasteful. They, therefore, seek new, quick methods and appliances for completing the job. Other hospital authorities leave the laboratory entirely to technicians. Before condemning, remember that none of us is absolutely free from one part of the "feminine constitution," in that we cannot resist the lure of advertisements. For what physician of your acquaintance has not fallen, more than once, for some complicated piece of equipment or therapeutic

device which now rests in some forgotten corner, a monument to his folly. In the laboratory field these appliances are multiplied a hundred fold; each picture more tempting, each description more convincing. Is it any wonder that the young physician, or the non-supervised technician, falls an easy prey to all those which promise to accelerate and facilitate laboratory results? These individuals are soon replaced by others, and each successor adds equipment. Finally, we have the additional straw of finance which breaks the hospital camel's back. Therefore, many laboratories present a picture which is a cross between the "old curiosity shop" and the den of the ancient alchemist.

This article may not present any new ideas, yet the writer knows that it is possible to equip, staff and maintain a small laboratory at a reasonable expense; so that it can meet the present minimum requirements of the American College of Surgeons; and, best of all, act as a reliable aid to clinical diagnosis.

Laboratories should be located preferably on the north side of the building, easily accessible; not in the basement, but as close to business office or operating room as possible. It should occupy one or—better—two large rooms with plenty of shelf space and closets to store chemicals. The essentials for any laboratory are, ventilation, light, cleanliness, shelf and storage space, and accessibility. These natural requisites would appear as self-evident facts. Yet, numerous laboratories in "Class A" hospitals lack one or more of the above.

Equipment and supplies should be purchased by one who uses more than usual care. Don't buy too much, better buy less than present needs. A microscope, colorimeter, centrifuge, scales, constant temperature bath and small incubator make up most of the costly equipment. Individuals with mechanical training can, for temporary use, devise all except the microscope, centrifuge, and scales. Even the artificial illumination for microscopic work can be replaced by a simple, inexpensive device.

Glassware should be adequate, substantial, and purchased from a reliable house. Complicated chemical solutions for blood chemistry, in the absence of necessary equipment or chemical skill, may be bought already prepared. Culture media for routine work tubed

or dehydrated, can be purchased. Stains are ordered in extremely small amounts and discarded at the first signs of deterioration, which in this climate is very rapid. Small amounts of routine stains are preferable to large collections.

Chemicals come under the same heading; cheapness is no economy. They must be the best, and, even these, in the presence of heat, light, and age, go bad. In brief, remember four "buy rules" in purchasing for small laboratories.

1. Buy the best.
2. Buy only what you need.
3. Buy in small quantities.
4. Buy standard equipment.

What should be the scope of the work in the small laboratory? This question can only be answered by saying it is limited by the ability of the laboratory personnel. For hospitals from 20 to 50 beds, the following should be done: routine examinations of urine, feces, sputum, transudates, exudates, gastric contents; simple colorimetric, microscopical and chemical blood examinations; widals, and the simplest bacteriology—especially diphtheria cultures. That is, it should cover most of the usual routine laboratory work.

Serology, surgical pathology and other complicated laboratory procedures are omitted. These demand expensive equipment, special training, and experience. They can only be done by, and under the direction of, a qualified pathologist.

The Kahn test, so widely hailed, unless performed by specially trained individuals, with adequate and numerous controls, leads to embarrassing and sometimes disastrous errors. We still check ours against the Wassermann.

The proper correlation of clinical laboratory activities with those of the hospital depends, as in the large institution, on the cooperation of house and visiting staffs. Such as, elimination of unnecessary tests, interpreting clinical findings and laboratory results with reasonable regard for errors inherent to both, less buffoonery about "sink tests" (suggestion has a wonderful power) patience, stopping the common practice of "riding the laboratory" by running in free specimens on outside private patients. Encouragement of

the laboratory personnel: The physician sees the patient, has the advantage for he realizes that he is dealing with a human being, not a number or name.

In words of the comic strip—"use discretion"—in requesting laboratory diagnosis. Tests are time-consuming, even a correct simple urinalysis takes time. *Do not overload the laboratory to decorate charts.* Tests should be repeated, as often as necessary, but too much repetition shows lack of confidence, of which your personnel soon learns, with the resultant effects.

Routine tests are absolutely necessary, but even they at times cause loss of efficiency, money, and personal interest. Each specimen should be an individual one. One wonders if standardization sometimes does not defeat our aims.

Your laboratory should be self-supporting in private institutions. To use an old bromide, "nothing is valued which costs nothing." This applies to the clinical laboratory. The "courtesy" laboratory degenerates into a mill, finally every one loses confidence in its results. These charges are not prohibitive. The basic charge of five dollars for all patients, with additional fees for excessive tests seems fair. This at times causes complaints, but the majority of physicians soon see the justice of the charge. They then will use the laboratory sanely, with more regard for its findings.

No hospital is stronger than its laboratory. The efficiency, accuracy, and scope of the laboratory diagnosis, depends on its personnel.

The ideal laboratory is under the personal direction of a clinical pathologist. In large communities this is the only arrangement which will be long tolerated. Much could be accomplished if smaller hospitals would employ a clinical pathologist for part-time supervision.

Where this is not possible, such as in small communities, the following is suggested as a makeshift. Each hospital needs the services of a trained technician. In our opinion the minimum period of training should cover at least a year. This training should be in a laboratory approved by the American Medical Association.

Then this technician is capable of working under supervision. Unfortunately numerous individuals pose as technicians, exhibiting certificates from doubtful commercial schools. Their ability is better expressed by blanks than by words.

The trained technician should be full time. She will, with reasonable co-operation and supervision, render competent results.

The practice of relegating the laboratory work to the newest member of the house staff can not be too sharply condemned. It should not surprise you if your laboratory work is unsatisfactory. For you remember from your own experience that you shrank and still shrink from such things. The young physician fresh from the medical school has a highly developed superiority complex. He regards it as drudgery from which he cannot escape. He wants personal contact and experience with the living patient. So he neglects the laboratory.

Without proper supervision no clinical laboratory can completely perform its function. Each small community has usually one man who leans more heavily on laboratory diagnosis than does his fellows. He should supervise the laboratory, help out in tight places, and make suggestions and do as much interpretation as possible.

In conclusion, the small hospital can and should establish adequate laboratory service at a small cost.

This laboratory should employ a trained technician under supervision in order to make for accuracy and efficiency.





## INTESTINAL PARASITES, THEIR FREQUENCY AND CLINICAL MANIFESTATIONS\*

PAUL F. WHITAKER, M.D., Kinston, N. C.

Department of Internal Medicine, Kinston Clinic

Being impressed over a considerable period with the frequency with which the diagnosis of intestinal parasites was made on patients presenting themselves for study, it was decided to do a routine stool examination on 500 consecutive patients in an effort to determine in a measure the frequency of intestinal parasitic infection in eastern North Carolina. Some years back the subject was much before the profession due to the work of the Rockefeller Foundation and enormous good was accomplished through this splendid work, particularly in discovering and treating hookworm infections. At that time one could stand on the street corner on Saturday afternoon in any eastern North Carolina town and diagnose by inspection hookworm infection in the weakened, pasty, listless and anhydreic faces of people from the rural districts. It is seldom now that one sees this type of case and it is only by careful histories, thorough physical examinations and accurate laboratory procedure that one discovers the frequency of intestinal parasites. It is apparently now a somewhat neglected subject.

The 500 cases upon which this report is based were private white patients coming through my office or my service at the Memorial General Hospital at Kinston. No negro or child under twelve years of age is included in this series. These cases represent a fairly good cross section of the adult population, many infections being found in the homes of the well-to-do as well as those in more moderate circumstances and those from the rural districts. Out of the 500 stool examinations made, 130 were positive, giving a percentage of 26.6 per cent infection with some form of intestinal parasites. Of this number there were 118 cases of hookworm, twelve cases of round worm, three cases of beef tapeworm and one case of pinworm. Of the total number it can be readily seen that hookworm is by far the most prevalent para-

site. Five cases had dual infections of ascariis and hookworm. Of the positive cases 86 were those of males and 44 females. The oldest positive case was that of a person 67 years of age, the youngest twelve. While it is not thought that age is such a significant factor, this point is mentioned for the fact that we believe that the percentage of positive cases would be even greater in children than in our series of adult cases.

### HISTORY AND SYMPTOMATOLOGY

A careful history will often lead one to suspect parasites. If asked directly the patient can often be made to recall having had dew poisoning, ground itch or foot itch in childhood or adolescence. He can often be made to recall having passed by bowel, or even vomited, so-called "stomach worms." Tapeworm patients will often have noticed segments of the parasite in their stool. A voracious appetite is supposed to be a prominent symptom of tapeworm, but our experience does not bear this out. Sufferers with pinworm infection frequently complain of intense pruritis ani and vaginitis.

Nervousness, insomnia, early fatigue, anorexia, irritability, listlessness, headache and lack of energy are prominent symptoms in patients suffering with intestinal parasites. Vague digestive symptoms are quite common. We were greatly impressed with the frequency of intestinal parasites in the so-called neurotic or neurasthenic individual, and we believe that this diagnosis will be made less often and with more caution if one will take the time and trouble to examine the stools. It is gratifying to see the results of treatment in this type of case.

### PHYSICAL EXAMINATION

The appearance of the patient is often suggestive but not conclusive. The skin and visible mucus membranes are usually pale and suggest anemia. The patient is often, but not always, under-weight. The muscles are usually flabby. In cases of pinworm infection the muco-cutaneous junction around the anus and vagina is often reddened and

\*Presented to the Second District (N. C.) Medical Society, meeting at Williamston, March 15, 1928.



hypertrophied from constant scratching. A palpable spleen is no uncommon finding. Forty-six of our positive cases had a definitely palpable spleen and no other cause could be found for the splenomegaly. This finding was present in the cases with a fairly severe secondary anemia. The explanation of this finding, while difficult, might be made as follows: One of the functions of the spleen is to remove crippled or wornout erythrocytes from the circulation. The parasite certainly produces an anemia, probably by elaborating a hemotoxin which acts on the red blood cells, or possibly by sucking the blood of the patient through the intestinal mucous membrane. Granting that this theory is true, the cells rendered useless by the action of the elaborated toxin are removed from the circulation by the spleen in such numbers as to cause splenic enlargement.

Slight edema of the ankles with bloating and purplish discoloration under the eyes without cardiac or renal pathology is a fairly common finding. A mild icterus of the hemolytic type is sometimes present. Hemic murmurs were often found on cardiac auscultation in the more anemic cases.

#### LABORATORY WORK

In no condition is accurate and properly interpreted blood and stool examinations of more value than in the diagnosis of intestinal worms. The differential blood count, revealing an increase in eosinophiles, is of inestimable value in leading one to suspect intestinal parasites. Eosinophilia of from 3 to 12 per cent is practically a constant finding in hookworm and tapeworm infections. Contrary to some observers, we believe it to be present in ascaris infections as well. The highest eosinophile count in any case was 12 per cent. The lowest eosinophile count was 2 per cent, giving an average of 4.5 per cent.

Every patient with intestinal parasitic infection in our series, save three, had a secondary anemia, characterized by a diminution of red blood cells and hemoglobin. The highest red cell count in any male was 5,020,000; the lowest was 1,340,000; the average was 4,032,000. The highest hemoglobin percentage was 90, the lowest 18; giving an average of 73.3 per cent. The highest red cell count in any female patient was 4,320,000, the low-

est 2,018,000; giving an average of 3,846,000. The highest hemoglobin percentage in any female case was 80, the lowest 44; giving an average of 62.4 per cent. Accepting 5,000,000 red blood cells per c. m. of blood as normal in the male, and 4,500,000 as normal in the female, with normal hemoglobin percentages as 90 and 80, respectively, it can readily be seen the degree of anemia produced. The presence of eosinophilia in intestinal parasitic infection is interesting. According to Neal and Robnett eosinophiles are not only present in the blood of patients with intestinal parasitic disease but are present also in the walls of the intestine. Their presence, like the presence of polymorphonuclear leucocytes in inflammatory disease and lymphocytes in tuberculous and syphilis, is intimately bound up in chemotaxis, specific and selective action of the cells for particular irritant micro-organisms and their toxins, and as a response to the need to build up protective antibodies, local enzymes and ferments.

The recognition of the ova of the parasite in question in the stools is of course the final procedure upon which a diagnosis is made. The technique of the stool examination of these cases is as follows: A small particle of the stool is mixed with tap water and shaken vigorously. It is then centrifuged for one minute and the supernatant fluid poured off. Tap water is again added and the mixture centrifuged for one minute. The ova are concentrated in the bottom of the tube and this material is examined under the microscope. It requires training, skill and patience to recognize and differentiate the various ova, and this work should be done by one meeting the requirements. Examination of the fecal mass with the naked eye will suffice for the pinworm. Each parasite is about a quarter of an inch in length, colorless, and projects its extremity above the fecal mass where it moves about slowly like threads waving in the air. A negative stool examination, however, should not deter one from making the diagnosis of hookworm infection where eosinophilia is present and the symptoms warrant the diagnosis. We have repeatedly demonstrated the presence of ova in the stools after treatment of such cases.

#### TREATMENT

For hookworm and round worm infections

a combination of oil of chenopodium and carbon tetrachloride is used in average doses of 30 minims each put up fresh in capsules. This dose is varied in some cases, depending upon the condition of the patient.

For tapeworm infections we have found nothing better than the oleoresin of aspidium in 40 grain doses combined with two drachms of spirits of chloroform. Proper purgation of the patient with abstinence from food is essential.

For pinworm infections quassia enemas are used. It takes prolonged and persistent treatment to rid the patient of this troublesome parasite. We treat the patient until a negative stool is obtained, and have found that it takes an average of two treatments to effect a cure.

The treatment of deRivas of Philadelphia is mentioned. He treats a patient by the instillation of physiologic saline solution into the duodenum and rectum, basing his treatment on the assumption that a solution at a temperature of from 45 to 47 degrees centigrade is lethal to the parasite, and at the same time has no ill effect on the intestinal mucosa. Experimental work on animals tends to bear out his assumption. The author has had no experience with this method but it is quite a common clinical observation that roundworms often vomited by children with hyperpyrexia, the high temperature probably playing a part and causing the parasite to leave its host.

#### SUMMARY AND CONCLUSIONS

1. Intestinal parasitic disease, particularly hookworm infection, is much more prevalent than is generally recognized and by no means so easily eradicated as is commonly supposed.

2. We believe that careful histories, thorough physical examinations, carefully made

stool and blood examinations, with their proper interpretations, offer the best means of detecting these infections.

3. Quite a number of so-called functional nervous patients suffer from unrecognized intestinal parasitic infections and respond promptly to treatment.

4. A palpable spleen is recorded as a common physical finding in intestinal parasitic disease and the explanation of this finding is attempted. So far as we know, this finding has not before been reported as associated with intestinal parasites.

5. Secondary anemia is practically a constant finding in intestinal parasitic disease. Attention is again called to increase of eosinophiles.

6. Treatment of the various parasites is discussed. Treatment is persisted in until a negative stool is obtained and it has been our experience that it takes an average of two treatments to effect a cure.

7. In conclusion, I wish to thank Miss Mildred Ringle, R.N., Technician at Memorial General Hospital, Kinston, N. C., for her assistance in studying these cases from the laboratory standpoint. Her enthusiastic and accurate work has illuminated the study of these cases.

#### BIBLIOGRAPHY

1. Osler-McCrae: Practice of medicine, 9th Edition.
2. Medical Diagnosis: Greene, 8th Edition.
3. Differential Diagnosis: French, 8th Edition.
4. The Enlarged Spleen: William J. Mayo, M.D., Southern Medical Journal, January, 1928.
5. The Prevention and Treatment of Carbon Tetrochloride Intoxication: P. D. Lawson, M.D., A. S. Minot, Ph. G., and B. H. Robins, M.S., Nashville, Tenn. J. A. M. A., February 4, 1928.
6. Proper Use and Interpretation of Leukocyte Count: M. Pinson Neal and Dudley Robnett, Columbia, Mo., Southern Medical Journal, September, 1927.



## RHEUMATIC HEART DISEASE\*

LUTHER W. KELLY, M.D., Charlotte

Rheumatic heart disease is a major problem both from an economic and a medical standpoint.

Economically two factors make it of primary importance: first, there is definite and marked curtailment of activity during youth and early adult life which limits the earning power of this class of patients and prevents them from acquiring a financial reserve; second, when congestive failure first appears these patients are economically unable to stop their work and to take the long rest period necessary for complete convalescence. The result is that their margin of cardiac reserve is small and they enter their terminal period of invalidism, lasting a few months to a few years, in which they are financially a burden to their families or to the state or to both.

Their period of economic usefulness to the community would certainly be lengthened if they were to be trained in an occupation which would require a minimum of physical effort on their part. They should know their limitations and learn to care for themselves just as we aim to teach the tuberculous patient to care for himself.

Rheumatic heart disease is much less common in the South than in New England where it constitutes 41% of all heart diseases<sup>1</sup>. The climate of this piedmont section is considered especially favorable and yet the disease is by no means unknown particularly among the negro population. A survey in Virginia lists this as constituting nearly one fourth of all heart diseases<sup>2</sup> and while I do not know of any survey made of the piedmont Carolinas, I would judge from cases seen in private practice and in the city clinic, that our percentage would not be far behind Virginia's.

Figures from northern clinics show that an astonishingly high percentage of heart disease follows the initial attack of rheumatic fever in childhood<sup>3</sup> but it is not confined to this age and I recently saw a patient 58 years old with an active rheumatic carditis following her initial attack of rheumatic fever one year ago. In this as in many other

diseases it is in the complications that the real danger lies and the old dictum that rheumatic fever licks the joints but nips the heart is very true.

Rheumatism is protean in its manifestations and this is especially true in childhood when beside acute rheumatic fever we have chorea, growing pains, wry-neck or other vague muscular and joint symptoms following tonsillitis, subcutaneous nodules, anemia not due to lack of sleep or improper diet and irritability not due to improper parental management<sup>4</sup> <sup>5</sup>. Recurrences are characteristic of this group and with each one there is danger of cardiac involvement.

The diagnosis is often difficult and the signs may amount to little more than a tachycardia accompanied by a half or a degree of temperature once or twice a week. An arrhythmia may be present due to partial block or if an electrocardiograph is available there may be shown to be a delay in conduction time or an alteration in the T wave. Transient precordial pain occurring in the course of a rheumatic disease is a valuable symptom and an acceleration of sedimentation time or a persistent leukocytosis are of value as an index of active infection. Of course the appearance of a murmur or of heart failure or enlargement of the heart are obvious signs, but they may not appear until some weeks or months after the initial infection.

The pathology of the chronic stage is well known but new light has been thrown on the early acute manifestations showing widespread involvement of all tissues of the heart by Ashoff bodies, by perivascular infiltration in the adventitia of the aorta, coronary arteries and about the smaller arterioles, and by interstitial valvulitis in addition to bacterial vegetations on the valve leaflets<sup>4</sup>.

The diagnosis of cardiac involvement having been made during the active stage the basis of all treatment is absolute rest in bed until the infection has become quiescent and this is usually a slow and tedious process often requiring several months and since fever may only appear at intervals of several

\*Presented to Mecklenburg County Medical Society, March 20, 1928.



days an absolutely normal temperature for ten days to two weeks is necessary before the infection can be considered quiescent. Fresh air, sunshine, and a nourishing diet are just as important as rest.

Tonsillectomy is apparently better as a preventive measure than as a curative one but the eradication of all foci of infection is the next step even during the acute stage of disease<sup>7</sup>.

Anti-sera and vaccines do not seem to have made much progress and the causative organism is still in question though perhaps this will in the end repeat the history of the scarlet fever streptococcus<sup>8,9</sup>. Our climate is satisfactory so we do not have this very great problem to contend with.

The salicylates<sup>10</sup> have been used for fifty-two years in the treatment of rheumatic fever and while they may not be specific for this disease they remain the drugs of choice when given in full therapeutic, i.e. toxic doses. The question of their value in cardiac involvement is debatable. They are certainly of much greater value in the exudative rather than in the proliferative manifestations, but they permit rest, comfort and sleep; the pulse rate is lowered and it is possible that they decrease edema of the valve leaflets, and thus lessen mechanical trauma. The mechanism of action is probably by increasing the permeability of the capillaries and colloidal membranes. They are analgesic and antipyretic.

Sodium salicylate by oral administration is my first choice. Rectal administration is permissible but intravenous is not, for emesis is due to central action<sup>11</sup> and gastric irritation can be avoided by the use of equal amounts of bicarbonate of soda.

In treatment of the chronic stage, surgery of the stenosed mitral valve carries too high

a mortality rate to be practical at present. Here again as in the acute stage rest is the basis of treatment and rest may be used as a preventative in fitting the occupation to the functional capacity of the heart as well as a curative procedure in rebuilding cardiac reserve, but these patients once decompensated need more rest than the average patient with heart disease and I think that extra weeks spent in bed will prove their value by increased functional capacity, when the patient is allowed to be up, and longer periods between the attacks of congestive failure.

#### BIBLIOGRAPHY

1. White, P. D., and Jones, T.D.: Heart Disease and Disorders in New England, *Am. Heart J.*, 3:302-318.
2. Wood, J. E., jr., Jones, T. D., and Kimbrough, R. A.: The Etiology of Heart Disease; A Clinical Study of 623 Cases with Certain Observations on Race and Climate, *Am. J. Med. Sc.*, 1926, CLXXII, 185.
3. Machie, Thomas T.: The Prognosis and Treatment of the Rheumatic Infection, *Am. Heart J.*, 3:31-43.
4. Swift, H. F.: Rheumatic Fever, *Am. J. Med. Sc.*, 170:631.
5. Allan, G. A.: The Early Detection and Supervision of Rheumatic Infection in Children, *Brit. Med. J.*, 3497, Jan. 14, 1928.
6. Rothman, P. E., and Leonard, B. W.: Cardiac Failure in Children Under Five Years of Age, with Special Reference to Acute Rheumatic Myocarditis, *Am. J. Dis. Child.*, 55:1-8.
7. Robey, W. H., and Freedman, L. M.: Effects of Tonsillectomy on the Acute Attack and the Recurrence of Rheumatic Fever, *Boston. M. & S. J.*, 196: 595-601, April 14, 1927.
8. Kirkhaugh, K. E.: Rheumatic Fever: Bacteriologic Studies of a non-methemoglobin-forming Streptococcus with Special Reference to its Soluble Toxin Formation. *J. Infect. Dis.*, 40:549-569.
9. Kiser, A. D.: Skin Reactions in Rheumatic Fever, *J. Infect. Dis.*, 42:25-30.
10. Hanglick, P. J.: Actions and Uses of the Salicylates and Cinchophen in Medicine, *Med.*, 5: 197-374.
11. Eggleston, O., and Hatcher, R. A.: The Seat of Emetic Action of Various Drugs, *J. Pharmacol. and Exper. Therap.* 7:225, 1915.

#### ORGANOTHERAPY

Such is the glamor shed over these glands by zealous enthusiasts and by commercial exploiters that we are apt to assume a much greater knowledge than we really possess.

Of the great number of endocrine products on the market, those of known potency in substitution therapy are (1) thyroid and thyroxin; (2) insulin; (3) parathyrin (Collip).

Of known potency as pharmacodynamic agents in conditions other than those due to disturbance of the glands in question are products of the medulla of the adrenal gland (epinephrin, adrenalin) and products obtained from the poster lobe of the pitui-

tary gland (pituitrin, pituitary ilquid, hypophysin).

There are very favorable reports of other potent agents developed in animal experimentation. One of these is from Evans, Smith and their associates at the University of California, who have secured an extract of the anterior lobe of the hypophysis which is protein free and sterile and which has caused a marked gigantism in rats when injected intraperitoneally. Allen and Doisy of St. Louis have demonstrated an ovation hormone from the liquor folliculi of hog ovaries.—From "Notes on Endocrinopathies," by T. P. Sprunt, M.D., Baltimore, *New York State Journal of Medicine*, July 15, 1928.



## ON MAKING THE DIAGNOSIS "EARLY PULMONARY TUBERCULOSIS"\*

JAS. M. NORTHINGTON, M.D., Charlotte

Soon after the chairman of this section requested me to take part in this program he came in to see me and I outlined the ideas which it was my intention to present. Singularly, since that time I have run across a considerable number of expressions of nearly the same ideas. Most likely the circumstances made my eyes keener for such matters. Conspicuous among these expressions is an address by Dr. David A. Stewart, the superintendent of the Manitoba Sanatorium, appearing in the April issue of *The Canadian Medical Association Journal*. Realizing fully that, for some inscrutable reason the quoted word carries added conviction, and this address being to all intents and purposes a filling out of the outline I had given our chairman, I shall use it freely.

Army experience and civilian experience before and since the war, forced on me the conviction that, in our anxiety to impress upon doctor and layman the necessity for being constantly on the lookout for tuberculosis, we have overplayed our hands. This does not mean that we have succeeded in impressing every doctor with the necessity of keeping constantly in mind for daily use, instead of in storage, those symptoms which all of us know should lead us to suspect tuberculosis and take appropriate action. Rather, it means that, in many cases doctor and layman have been so impressed with the imminence of the danger from the "great white plague" as to cause an inexcusably large number of persons who have no tuberculosis to be labeled "tuberculous."

Many doctors say that, when they tell a patient in whose case they suspect tuberculosis that he *has* the disease and recommend sanatorium treatment, they are "giving the patient the benefit of the doubt." But are they? Let's look into it. A mistaken diagnosis of pneumonia, scarlet fever or diphtheria, while deplorable, usually works little hardship on the patient. Not so with tuberculosis or syphilis. (Syphilis is merely drag-

ged in for illustrative purposes and will not be further considered). Most acute diseases will run their courses in a few weeks, largely irrespective of the diagnostic label attached; but a diagnosis of tuberculosis, correct or incorrect, is "from now *on*." It permanently limits one's possibilities for obtaining gainful occupation and circumscribes his social life, while imposing a heavy pecuniary burden; in many, if not most, instances it changes for the worse the whole current of the patient's life.

The opening paragraphs of the address mentioned early in this paper read:

"In the pages of *Punch*, not long since, two flappers, discussing their respective and respectable medical advisers, decided they were of two types familiar to all of us, and of which we know many honored representatives, one a 'Pooh-pooh-er,' and the other a 'Wind-up-er.' In relation to tuberculosis, the Pooh-pooh-er, the man who habitually under-diagnoses, who has comfortable words of 'Peace! Peace!, when there is no peace,' was a tremendous nuisance twenty years ago, and still survives. But the man who habitually over-diagnoses, who 'gets his patients' wind up,' without sufficient cause, is more numerous than he used to be, and something of a nuisance also.

"The Pooh-pooh-er—if the modern colloquialism may be permitted—has many alibis. He has known the family all his life and there has been no tuberculosis on either side of the house. 'This girl looks as well as ever she did. Her chest is sound as a bell'. (upon a half-minute examination, with a defective stethoscope, and through underclothing). 'Blood? Doubtless from the throat. Pain? A little pleurisy, nothing like tuberculosis. Cough? Merely a 'cold'; everybody has 'colds'; or 'flu' hanging on a bit. Spring will clear it up. Fatigue? Not enough exercise; she should get out more.' He will think and talk of everything else possible before and besides tuberculosis. He 'simply wouldn't take the responsibility of even suggesting tuberculosis to this frail little woman; the shock would be enough to kill her. Bacilli? Lab-

\*Presented to the Medical Society of the State of North Carolina, meeting at Pinehurst, April 30th, May 1st, 2nd and 3rd, 1928.

oratory men make many mistakes. Anyway even if it is tuberculosis, nearly everybody has it, and most of them get better. Why worry?'

"The Wind-up-er, who is inclined to over-diagnose tuberculosis, is nervous and apprehensive. He heard a rale, or thought he did, somewhere in the chest; or dullness has been defined, or at least suspected; or, there was a speck of blood a little larger than a pin head; or, there has been cough for a week. Plates show some dirtiness somewhere. There has been a positive von Pirquet reaction. A few pounds of weight have been lost. The reason *must* be tuberculosis and the prognosis *must* be grave.

"Somewhere between the two extremes of under-diagnosis and over-diagnosis is a happy mean of right diagnosis, which, if we seek earnestly, we can find."

Attention is called a little further on to the well-known, but too-little-regarded, fact that a truly *early* diagnosis of tuberculosis can seldom be made, that early tuberculosis is to be found only in persons who have no definite symptoms. Dr. Stewart is for early diagnosis but not for early guesses or unwarranted assumptions.

"Early diagnosis? Yes, the earlier the better, if the diagnosis is also right; not otherwise. Twenty years ago, earliness was about the only virtue considered in the diagnosis of tuberculosis, and lateness the only vice. But really, to be right is just as important as to be early, and early-and-wrong is as capable of mischief as late-and-self-evident."

The point is strongly emphasized that, though the infection is well-nigh universal, the disease is not; a distinction not always made. "And 'having tuberculosis' does not always mean 'suffering' from it." "If x-ray plates gave the only means of diagnosis" in Dr. Stewart's and my opinion, "half the patients who enter hospitals might be considered tuberculous." As an illustration of the incisive humor of the allegedly humorless Briton, I commend to you: "Old lesions do not necessarily explain all ills. Those who have recovered from tuberculosis must be permitted to have a chance of developing other diseases also." The search for tubercle bacilli is likened to going fishing, two days fishing being better than one and ten better still.

Heise, in the *American Review of Tuberculosis* for April, says this:

"Before the advent of the general use of the x-ray in the diagnosis of pulmonary disease, more and more emphasis was laid upon the need of discovering early any abnormal physical signs in the chest, so that, when present, tuberculosis might be treated at once with the greatest chance of satisfactory recovery. This naturally led to ultrasensitive and critical standards for interpretation of breath-sounds and adventitious sounds and also of impairment of resonance. As a consequence, we know now that quite a few patients were erroneously diagnosed as tuberculous. Many were stigmatized to their individual loss, both socially and financially, and others were refused protection by insurance. We now know that the normal variations in physical signs are broad for both percussion and auscultation, so that minor changes from the previously taught normal are not considered as seriously in diagnosis as formerly. Some time ago it was shown that such minor changes in breath-sounds as prolonged expiration, slight brochovesicular breathing and increase of vocal resonance and slightly distant breathing, were very frequently found in individuals with no pulmonary disease."

The easiest way to dispose of a patient who is below par and who presents no definite evidence of any certain disease is to tell him that he has "incipient" or "early tuberculosis." If, after a few months, the patient is well, there is much rejoicing, and great is the doctor's fame, whatever the patient may, in fact, have got well of. If, on the other hand, it turns out to be a case of tuberculosis, the doctor is honored for his diagnostic acumen. He can't lose. But his patient can, and often does.

The workers at the Adirondacks Cottage Sanatorium have adopted five criteria for diagnosis, the absence of *all* of which is regarded as necessary for the exclusion of pulmonary tuberculosis. These are: "(1) hemoptysis of a drachm or more; (2) pleurisy with effusion; (3) moderately coarse rales above the third rib and the third vertebral spine; (4) a parenchymatous roentgen-ray lesion in the same area, and (5) tubercle bacilli in the sputum. Pulmonary tuberculosis can be excluded safely only when all five of these data are absent."

I am asking that you not make a positive diagnosis of pulmonary tuberculosis except in the cases of patients in whose sputum tubercle bacilli are found at least twice, *or* who present typical rales *or* x-ray evidence.

I am asking that each of you think immediately of tuberculosis as the most probable cause when any patient comes to you complaining of progressive loss of strength and (or) weight, cough, vague digestive disturbances or hemoptysis of a drachm or more; tells you that he or she has had pleurisy with effusion, or is found to be so afflicted; presents moderately coarse rales in an apex; or shows parenchymatous lesions when examined under the roentgen ray.

I am asking further that you bear it in mind that a diagnosis of tuberculosis, correct or incorrect, is a permanent and serious handicap; and, on the other hand, that, notwithstanding much optimistic literature, *very few in whose cases the diagnosis is proved*

*are ever able to show a balance on the profit side of the economic ledger.* This being true we can well afford to refuse to work the certain injury by labeling a doubtful case *tuberculous*, for the very problematical benefit to be had in case it turn out to be tuberculous.

What to do in such a case? Make a diagnosis of "suspected tuberculosis"; then, when you find that it is not tuberculosis you will not have to tell the patient his tuberculosis is "arrested" and so leave in his mind and the minds of all his associates the idea that the disease is apt to break arrest at any time; you can wipe the slate clean and your patient will be entirely rehabilitated in the eyes of his family, his employers and society in general. Moreover, you will have been dealing honestly with your patient all through, representing to him as known, things which are known; as probable, things which are probable.

---

#### PARAPLEGIA IN MYELOID LEUKEMIA

Wm. Allan, M.D.

Charlotte, N. C.

Involvement of the central nervous system in the leukemias is rare<sup>1</sup> and as pointed out by Basso<sup>2</sup> cases of cord compression have generally been reported in connection with chloroma, rather than as due to leukemia. Dock<sup>3</sup> in 1893 collected 17 such cases and Dock and Warthin<sup>4</sup> in 1904 collected 22 additional cases. Basso reviews the cases reported between 1904 and 1918 by Klein and Steinhäus<sup>5</sup>, Weinberger<sup>6</sup>, Saltykaw<sup>7</sup>, and Schwab, Sale, and Schmidt<sup>8</sup> and describes a case of his own. Fried<sup>9</sup> (1926) reported a case of leukemia in which lymphomas and hemorrhages were found to be widespread in the brain, and collected from the literature 30 cases with similar involvement of the central nervous system; in 13 the meninges or hemispheres were involved, in 7 the cranial nerves, and in 11 the cord (including one of the cranial nerve cases). In 8 of the cord cases<sup>10</sup> there seems to have been degeneration of the cord tracts from pressure without either hemorrhage or leukemic infiltration: in two cases<sup>11</sup> there was lymphocytic infiltration of the cord, accompanied in Dolivo's case by hemorrhage, and in one case<sup>12</sup> there was myelocytic infiltration of the cord without

hemorrhage or vascular changes. According to Basso in 26 cases with cord lesions collected by Baudouin and Parturier<sup>13</sup>, hemorrhage was the dominating lesion in 8, leukemic infiltration in 7, and cord degeneration in 11.

Barker<sup>14</sup> by lumbar puncture discovered myelocytes in the spinal fluid of a leukemic patient with cord symptoms, but points out that the type of lesion present cannot be predicted from such evidence.

As the symptoms may come on abruptly with any type of lesion, it is impossible in the case presented here to define the pathologic changes since no autopsy was permitted.

*Case Report:* On June 3, 1910, I saw with Dr. John S. Clifford at Mercy Hospital a Syrian peddler, age 31, who had been in America four years. He had had typhoid at 23 and had passed some sort of worms in April 1910. Syphilis was denied. The man had felt bad for several months and on June 2 he had suddenly become paralysed below the waist, with inability to empty bladder and rectum.

On examination the eyes, ears, nose and throat were normal: the tongue was coated and protruded to the right. Heart and lungs



were normal. The abdomen was tremendously distended with gas, so that neither liver nor spleen dulness could be made out, the intestines apparently being paralysed. The abdomen was not tender. The genitalia, joints, and extremities appeared normal. The superficial glands were not palpable. The skin was dry and pale. From one inch above the umbilicus down, there was complete loss of sensation, motion, and all reflexes. The urine was normal. The blood showed hemoglobin 25%, red count 1,260,000 giving a color index of 1: there were 37,600 leucocytes, with 30% polynuclears, 14% small mononuclears, 1% large mononuclears, 3% eosinophils, 50% neutrophilic myelocytes and 2 eosinophilic myelocytes: there were 2,256 eosinophilic red cells per cu. mm. with marked variation in the size, shape, and staining reactions of the red cells. After nine days the patient died: no autopsy was permitted.

Needless to say the finding of myeloid leukemia in this case came as a complete surprise. The abrupt onset of the paralysis suggested the probability of hemorrhage into the cord, but a review of the literature shows that the other types of cord pathology in leukemia may be responsible for the onset of

pain or paralysis with the same dramatic suddenness.

#### REFERENCES

1. Ordway, T., and Gorham, L. W.: *Oxford Medicine*, Vol. 2, pages 692 and 702.
2. Bassoe, Peter: *J. Nerv. and Men. Dis.*, 47:180, March, 1918.
3. Dock, G.: *Amer. J. Med. Sc.*, 106:152, 1893.
4. Dock, G., and Warthin, A. S.: *Med. News*, 85:971, 1904.
5. V. Klein and Steinhaus: *Zentralbl. f. Allg. Path. u. path. An.*, 1904, Vol. 15, p. 49.
6. Weinberger: *Zeitscher. f. Heilkunde*, 1907, Vol. 28, p. 1.
7. Salytkaw: *Verhaudl. d. deutsch. path. Gesellsch.* 1909. 13th Tagung, p. 241.
8. Sale, Schwab and Schmidt: *Interstate Med. J.*, 1917, Vol. 24, p. 264.
9. Fried, B. M.: *Arch. Path. and Lab. Med.*, 2:23, July, 1926.
10. The cases reported by:  
Eichorst: *Deut. Arch. f. klin. Med.*, 61:519, 1898.  
Baudouin, A. L., and Parturier, G.: *Revue Neurol.*, 19:673, 1910.  
Stursberg, H.: *Deut. Arch. f. klin. Med.*, 114:292, 1914.  
Bassoe, Peter: *Ref. 2*.  
Mueller, W.: *Inaug. Dissert.*, Berlin, 1895.  
Nonne: *Deut. Ztschr. f. Nervenhe.*, 10:105, 1897.  
Schulze, H.: *Quoted by R. Spitz: Deut. Ztschr. f. Nervenhe.*, 19:467, 1901.  
Gardiner, H., and Lartigau, A.: *Albany Med. Ann.*, p. 339, July 23, 1902.
11. Dolivo, V. H.: *Inaug. Dissert.*, Heidelberg, 1919.  
Bloch, E., and Hirschfeld, H.: *Deut. Ztschr. f. klin. Med.*, 37:32, 1900.
12. Nonne (2nd case): *Ref. 10*.
13. Baudouin, A. L., and Parturier, G.: *Ref. 10*.
14. Barker, L. F.: *So. Med. Jour.*, 14:437, June, 1921.

#### HOLDING UP PHYSICIANS

The New York *Herald-Tribune* of July 23 prints a letter from Dr. J. Gardner Smith, 21 West 122nd street, New York, regarding robberies and hold-ups of physicians and dentists, both in their offices and on their way to patients. The letter says:

"I am requesting the Medical Society of the County of New York to protect the lives and property of physicians when making calls at addresses strange and unknown to them. With the approval of Police Commissioner Warren, could not the society notify all physicians to telephone immediately to police headquarters in advance of making such calls, so that a policeman or detective could meet or precede the physician in an effort to apprehend criminals?"

The Doctor is also quoted as saying:

"Conditions now are such that when I get a call at an irregular hour from an unknown patient, I refuse to answer it unless I am afforded protection. The reaction of this underworld work is that doctors are absolutely afraid to go to people who may need them very much, unless they are known. These things all injure persons who are actually in need of a physician. It is for the protection of meritorious cases of worthy patients that I wrote the letter."

While sneak thieves may consider the valuables of physicians and dentists and their patients as their legitimate prey, there is the further fact that physicians on their way to patients are immune to hold-ups to a greater degree than any other group of persons. The physician is admitted to private houses

and dens of vice without question when his profession and mission are evident, for his errand of mercy is respected even by thieves.

However, there are other phases of medical relations to be considered. A physician is respected only so long as he is entirely truthful and sincere. But there are increasing numbers of instances in which physicians have been impersonated by non-medical men. Ambulance chasing physicians have claimed to represent patients when they had no right to go near the cases. Also physicians have been known to pretend to be on medical missions when in fact they were on a sporting lark.

The medical profession faces a serious problem in preserving the sincerity of action of physicians.—*New York State Journal of Medicine*, August 1, 1928.

#### AGAINST COCAINE

(Edinburgh Medical Journal, August)

For internal administration, for local application, or for subcutaneous injection, cocaine is such a dangerous drug that its use is inexcusable. There are efficient substitutes for which no idiosyncrasy need be feared. The catastrophe of cocaine may be delayed, but in no large practice can cocaine be used habitually without sooner or later the calamity occurring. The very fact that the use of cocaine is heaped about with state restrictions should be sufficient warning to the physician or surgeon who uses cocaine that his patients run a terrible risk.



## PRESIDENT'S PAGE

*Tri-State Medical Association of the Carolinas and Virginia**Jas. K. Hall*

No statistical information is absolutely correct. Change is the fixed thing in Nature and is the law of Life. Yesterday was somewhat different from today, and tomorrow will be exactly like neither. In this time of movement, flux and flow, the exact population of even the smallest hamlet cannot be definitely known. All estimates must be only approximations.

The Tenth Edition of the American Medical Directory, published in 1927, estimates the population of South Carolina at that time to be 1,845,000; the number of licensed physicians in the state at 1,309, and the membership of the physicians in the state medical society at 801. The population of North Carolina at the same time was estimated to be 2,897,000; the number of licensed physicians in the state 2,328, and the membership in the state society 1,708. Virginia's population was 2,546,000; number of physicians 2,506; state society membership 1,835.

Because of personal inability to comprehend the meaning of the truth involved in the Pythagorean problem, the use of logarithms, and to ascertain the square root even of 4, I have sedulously avoided all attempts to make use of mathematical calculations. Because of their profound knowledge of all such incomprehensibilities I have always had the profoundest respect for Archibald Henderson and Saint George Grinnan. If they understand such things they must also know all about George Bernard Shaw, the theory lately promulgated by Einstein, and the effect of solar light on the disturbed metabolism underlying rickets. But with such aid as could be secured in an effort to make intelligible the meaning of the medical statistics recorded above I have concluded that in the State of South Carolina one physician is surrounded by a total population of 1,483; in North Carolina there is one medical man to 1,244 people, and in Virginia every group of 1,015 of the population has a physician. In North Carolina and in Virginia just about exactly the same percentage of the physicians

have membership in their respective societies; in South Carolina, if I reason not incorrectly, a somewhat larger proportion of the doctors belong to the medical organization.

The total membership of the Tri-State Medical Association of the Carolinas and Virginia is about 388. Eight of these members are honorary, and some of them reside outside the territory of the three states. North Carolina, thought by many to be given to raucous boastings about her Firstness in many fields in addition to those of Gettysburg and Bethel and Appomattox, can adduce statistical proof that she is first in numbers in the Tri-State. Her membership is 185. The number of members in South Carolina is 87; and in Virginia there are 108 members.

The South Carolinians would seem not to be great joiners of away-from-home organizations. But they are good attenders of medical meetings in their own state. Whenever the Tri-State meets in that state the attendance of the physicians of that state is large. We have always had wonderful meetings in South Carolina. They are individualistic peoples. They like their own ways and their own places and their own folks. The programs of their own state society are always educative. I admire the South Carolinians. I wish a larger number of them would add their leaven to the Tri-State. The physicians in North Carolina, especially the younger men, are almost Yankee-fied in the alertness of their professional eagerness. Many of them got their medical education in the North. Their eyes are open and their ears are pricked to see and to hear the new things. Had they been living in Athens they would have crowded around Paul on Areopagus to hear his new philosophy. Many of Virginia's physicians have long been engaged in teaching medicine and in supplying medical service to the Army, the Navy, and the Public Health. Graduates of her schools are scattered throughout the Tri-State's territory, and every meeting of our body brings together many of the alumni of her schools.

I entertain the reasonable hope that our membership may gradually be increased to 1,000. And that can easily be done. If each present member of the organization will bring in one additional member the hope will approximate realization. Will not each member take such a pledge? Soon I shall follow this journalistic appeal by a personal letter addressed to each of you asking you to induct some young medical man into our fold.

#### ON CONSTITUTIONS

"First, therefore, in this as in all things practical, we ought to cast up what is in our power and what not; for the one may be dealt with by alteration, but the other by way of application only. The husbandman can command neither the nature of the earth nor the seasons of the weather; no more can the physician, the constitution of the patient nor the variety of accidents.—BACON, *"Advancement of Learning."*

#### ORIGIN OF NORMAL BREATH SOUNDS

I prefer the theory that the normal breath sounds are traceable to vibrations of the delicate pulmonary tissues, excited by currents of air, induced by the activity of the respiratory muscles. The pulmonary sounds commonly set the chest-walls into vibration. This is too feeble to be recognized by the unaided ear separated from the chest, but is distinct if the bell of the stethoscope is applied lightly to the chest, and is indistinct if firm pressure is used. There is no actual reinforcement. If a circumscribed portion of the chest-wall of a rabbit is removed, only enough being left to prevent pulmonary collapse, much louder sounds are heard than over the intact chest-wall. Expiration, especially in children, may include sounds derived from the larynx, comparable to the whisper sometimes heard normally. Any possible inspiratory sounds from the larynx are obscured by the pulmonary murmur.—C. M. Montgomery, Asheville, N. C., in *Am. Review of Tuberculosis*, August.

#### EXTRACTS FROM PRESIDENT'S ADDRESS TO SECTION OF ANESTHETICS OF ROYAL SOCIETY OF MEDICINE, LONDON

I feel there is a tendency in favor of returning to the general use of chloroform as a routine anesthetic.

I still adhere to the belief that ether is by far the safest anesthetic we have, and that, given reasonable skill, anything which can be done with any other anesthetic can be done as well and with greater safety with ether.

#### HER CONCERN UNNECESSARY

A lady not over a thousand miles from Goldsboro was talking to a man the other day and saw a bottle of likker in his pocket and said to him, "Is that bottle of vile liquor you have there in your pocket the only consolation you have in the world?" "Oh

Greensboro is almost the geographic center of the field embraced by the Tri-State and there we shall surely have a splendid assemblage. Concrete roads from every direction converge there like spokes into a hub. I am going to make a vigorous appeal to the doctors in the smaller towns and in the country districts to meet us in Greensboro. They are the burden-bearers in the medical world.

no, mam, I know where I can get plenty of it."—*Snow Hill Square Deal.*

#### SURE HE WAS

Joe Blumberg and his new dog stayed all night in a hotel last week and when Joe came to settle up he was sore at the bill. The clerk explained that it was an American plan hotel and the bill included three meals.

"But I didn't eat any meals," Joe said.

"Can't help that; they were here for you."

"Then the bill's square," Joe said. "I charge you six dollars for kicking my dog."

"I didn't kick your dog!" the clerk said.

"Well, I can't help that," Joe said. "He was here for you."

Physicians having caused a tremendous increase in the price of liver by recommending it to anemics, we hope they will not discover anything remedial in ham and cabbage.—*Omaha Bee News.*

A physician says the State spends twice as much on wild life as upon child life. Parents will find this a very puzzling distinction.—*San Diego Union.*

According to a medical theory, dark patches under the eyes may be due to defective teeth. In domestic circles they may also be due to a faulty alibi.—*Punch.*

John Barleycorn seems to rest in his grave with all the reposeful calm of a Japanese waltzing mouse.—*Arkansas Gazette.*

An English medical authority says that the man who blows the big horn in a band cannot live more than three years. That is three years more than his next-door neighbor wants him to live.—*Richmond (Va.) Times-Dispatch*, July 29th, 1878.

# Southern Medicine and Surgery

Official Organ of

{ Tri-State Medical Association of the Carolinas and Virginia  
 { Medical Society of the State of North Carolina

JAMES M. NORTINGTON, M.D.  
*Editor*

## Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	Human Behavior
FRANK HOWARD RICHARDSON, M.D.	Black Mountain, N. C.	Pediatrics
W. M. ROBEY, D.D.S.	Charlotte, N. C.	Dentistry
J. P. MATHESON, M.D.	Charlotte, N. C.	Diseases of the Eye, Ear, Nose and Throat
H. L. SLOAN, M.D.		
C. N. PEELER, M.D.		
F. E. MOTLEY, M.D.		
THE BARRET LABORATORIES	Charlotte, N. C.	Laboratories
O. L. MILLER, M.D.	Gastonia, N. C.	Orthopedic Surgery
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	Urology
JOHN D. MACRAE, M.D.	Asheville, N. C.	Radiology
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	Dermatology
PAUL H. RINGER, M.D.	Asheville, N. C.	Internal Medicine
GEO. H. BUNCH, M.D.	Columbia, S. C.	Surgery
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	Periodic Examinations
HENRY J. LANGSTON, M.D.	Danville, Va.	Obstetrics
CHAS. R. ROBINS, M.D.	Richmond, Va.	Gynecology
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	Neurology
LOUIS L. WILLIAMS, M.D.	Richmond, Va.	Public Health

## ON THE CHEERFUL LYING OF DOCTORS With Special Reference to Obesity

Prophet of evil! never hadst thou yet  
 A cheerful word for me. To mark the signs  
 Of coming mischief is thy great delight;  
 Good dost thou ne'er foretell, nor bring to pass.  
*—Homer.*

Cursed be the day wherein I was born; let not the  
 day wherein my mother bore me be blessed. Cursed  
 be the man who brought tidings to my father, saying,  
 A man child is born unto thee; making him very  
 glad, and let that man be as the cities which the  
 Lord overthrew, and repented not . . . because he  
 slew me not from the womb.—*Jeremiah.*

How beautiful upon the mountains are the feet  
 of him that bringeth good tidings.  
*—Isaiah.*

Certainly honesty is one of the greatest of  
 virtues, and certainly it is a virtue which is  
 its own, and often its only, reward. Not  
 infrequently it is a positive handicap in the  
 practice of medicine.

It is no news that mankind loves to hear  
 the pleasing, though false; rather than the  
 unpleasing which is entirely veracious, and  
 this applies even when unpleasing, true in-  
 formation provides the means for averting  
 calamity. Prophets of good things are cred-

ited with wisdom, and even with having a  
 hand in bringing it about, when their prophe-  
 cies come true; and when their prophecies  
 fail they lose little in credit, being credited  
 generally with having tried to have things  
 come out well. Those who foretell evil are  
 scorned and derided when their prophecies  
 fail; and even worse treated when subsequent  
 events disclose that neglect to heed their  
 words has led to disaster.

"Good dost thou ne'er foretell, nor bring  
 to pass", mourns the blind Homer; and poor  
 old misanthropic Jeremiah, whose ceaseless  
 complaints and smug predictions of calamity  
 kept himself and all in contact with him  
 unhappy, and gave to language the appro-  
 prious term "jeremiad", who, whether under  
 Jew, Babylonian, Egyptian or Chaldean, had  
 found only dole; when he is approaching his  
 end, he harks back to the day of his birth  
 and damns with his choicest curse the medi-  
 cine man "because he slew me not from the  
 womb." And the afterthought of the news  
 of his birth making his father very glad adds  
 gall to his cup! If our brother who had a  
 hand in his birth could have foreseen with  
 any accuracy, very likely he would have been



in no unseemly haste about tying the cord. So far as has come to our attention this is the first recorded instance of ill treatment of an obstetrician who handled a case well and was able to go and tell the father that he had a boy baby.

There is more than a modicum of reason behind the idea that, if one can foretell, he should be able to foreordain. Literature is replete with instances in which shrewd persons have been set in high places for bringing about eclipses and other marvels, and we do not need to go back six months into the political history of our own state to find one set up as a major prophet, for no other reason than that he brought his own prophecies to pass—and that very imperfectly.

Medical prophecy, or prognosis, has many intricacies which will not be gone into here. We will concern ourselves only with a consideration of the aspects which are embraced in our caption. Several months ago a distinguished physician of New York wrote for a lay magazine under the sensational title "Should Doctors Tell the Truth?", proceeding to answer his own question, at least to the satisfaction of the scores of thousands who read about it and talked about it, to the effect that doctors should be habitual liars.

Any thoughtful person will agree that there are occasions on which it is not well that all the truth be told, and it is worth remembering that truth and fact may be very different things. A very simple rule will decide wisely and honorably when the truth, so far as we know it, should be suppressed or deviated from. This rule is: Suppress the truth only to serve the best interests of your patient, and make sure on this point. It is plain that a patient passing through a critical period of an illness should not be told unnecessarily that he has had a severe hemorrhage and that he is about to die; it is equally plain that an attempt to conceal, for a long period, from a patient of average intelligence, the fact that he has tuberculosis or cancer, is but to start on a stupid enterprise, doomed to failure. Moreover, in the vast majority of instances, a patient is not greatly perturbed by the knowledge that the chances are against his recovery, or even that he can not recover; and he is reconciled and fairly happy under the ministrations of a sensible doctor who tells him the true condition as

soon as he learns it, so his affairs can be arranged in accordance, and makes his way to the grave as smooth as may be.

After allowing considerably for loss of confidence in doctors in recent years, it can be safely said that mankind distrusts us today less than it distrusts any other group. Today, when a doctor misjudges the gravity of an illness and death comes on the heels of a favorable prognosis, or a condition diagnosed as innocent turns out to be malignant, the chances are good that the relatives will say kindly: the doctor knew he was going to die, or that it was a cancer, but he just wouldn't tell us. Sometimes we shield ourselves behind this charity.

When all is taken into account, though, the occasions on which doctors find it necessary not to tell the truth are so rare as to add very little to the number arising in ordinary human intercourse; so why pick on us? And what reason or excuse could this prominent New York doctor have for advertising us to the world as being less worthy of credence than other men? Let him speak for himself, make his own confessional and mayhap obtain absolution; for the doctors of this state and section we say: doctors can, should and do speak the truth, departures from this practice being infrequent and then by way of amiability and kindness.

Sensationalism is always open to suspicion. Things of solid value do not need to be heralded with drums and trumpets. Many, if not most, of the writings by doctors appearing in lay publications are inspired far more by a desire for self-advertisement than the hope of telling the people anything of value. When an article is headed by a sensational title the probability becomes almost a certainty. "Should Doctors Tell the Truth?" is eye-catching, ear-filling and tongue-stimulating. The same may be said of recent inspired articles put out from Rochester for the newspapers. One attempted to show that the main reason for the consumption of alcoholic drinks lay in the difficulty of obtaining unpolluted drinking water. The Greensboro *News* promptly answered this by citing the well known facts that our own mountain sections have always averaged among the highest for gallons per capita of liquor and for purity and palatability of water. Another article from the same town alleged that wo-



men of today were ruining the beauty of their calves by wearing high-heeled shoes. Most of us, of whom it might be said as it was of Moses, "his eye was not dim, nor his natural force abated," will deny that the ladies *gastrocnemii* have lost anything in eye-appeal in our times; and our money would go three-to-one on the girls in the high-heeled shows at a show-down with these "sensibly" shod sisters. But where could you have picked three subjects for articles which could be depended on to get and keep the names of their authors on so many tongues?

The over-emphasized endocrine factor in obesity serves as a connecting link; for the only limitations to the claims of the most zealous of the endocrine enthusiasts have been imposed by the bounds of the human imagination. We rather think that more than half those going to doctors for the reduction of fat are given some gland preparation, in some instances with benefit.

For a number of years we have had one answer to any one asking "Why am I so fat"? It is, "You eat too much"; and our clinching argument is a reminder of the fact that no pictures have ever been shown of starving Hindoos, Chinese, or Russians, who retained their fat. The stock rebuttal is to the effect that some other member of the family eats much more, but weighs much less. Usually this is not true; but, even if it is, it proves only that the other person uses up much more in energy, or that the patient is a more efficient fuel engine. The fact that one engine will drive a certain automobile more miles on ten gallons of gasoline than will another engine, does not argue against gasoline as the source of the energy; and every one knows that nine gallons will not take you as far as ten.

Most likely diligent search would reveal thousands of articles purporting to show that an excess of fat accumulates with little regard to food or exercise. Seldom does an article appear which so flatly, plainly and convincingly states the case for over-eating as the explanation, as one by Newburgh, in *The Atlantic Medical Journal* for July, which begins:

A recent editorial in the *Journal of the American Medical Association* stated:

There is no doubt that obesity is frequently the result of overnutrition, particularly when this is

combined with lack of muscular exercise. This simple hypothesis of a favorable balance of food intake over energy output is not convincing, however, as a universal explanation. At any rate, it does not make clear why some persons . . . seem to gain despite an apparently moderate regimen. Furthermore, in many instances obesity seems to have an hereditary background as though there were a constitutional predisposition as well as the consequence of liberality in diet. Indeed, a distinction is sometimes drawn between so-called exogenous obesity—attributed to inactivity and overfeeding—and an endogenous or constitutional type for which a variety of physiologic or pathologic functions have been held responsible.

"I want to take exception to the view expressed in the *Journal*, and to present evidence that obesity is due to one reason and one alone—that the subject takes in more than is used up, regardless of any disease or any inherited tendency which may be present."

Further on it is stated that disease does influence the putting on of weight. If a person with myxedema is fat it is because his reduced metabolic rate has reduced his caloric needs. He concludes: "Any disease which results in obesity must do so because it changes the previous relation between ingo and outgo by increasing the appetite, by decreasing the demand, or by making a formerly active individual lazy, etc."

Patients much prefer to be told that their condition is due to some mysterious activity within them than to their own gluttony, of which they are rather ashamed. Some doctors assure them their endocrines are the culprits. They are pleased that, at last, they have found doctors who understand their cases.

How beautiful upon the mountains . . .

### "THE DOCTORS GAVE ME UP"

The treatment of rheumatic heart disease is doubly discouraging; long-continued efforts so frequently appear to have been wasted, and the patients themselves are often the brightest and most cheerful of those in a children's ward. There is a very real danger, therefore, of feeling that whatever is done the outcome is likely to be the same, and of allowing one's efforts to relax. Only by holding to first principles and by refusing to be disconcerted by the long list of failures are the best results likely to be obtained.—The Treatment of Rheumatic Carditis, by Geoffrey Bourne, *The Lancet*, August 4, 1928.

Frequently we see testimonials to the skill of quacks in which patients state that, after one to a dozen doctors "had given me up," this wonder-worker brought about a cure. A great many of these testimonials are wholly fraudulent; but a not inconsiderable number are written in all honesty, and the writers

were "given up" by regular doctors, who thought death was at hand.

One of our earliest medical teachings was to beware of making a hopeless prognosis in an acute illness; experience has convinced us of the wisdom of this teaching, and that it is wise to include both subacute and chronic illnesses—of men, women and children—in the warning.

Too many of those under whom we sat at college, whom we followed through the wards, or with whom we examined out-patients, were prone to say nothing could be done for certain patients. Some of this was due to indifference, some to weariness, some to resourcelessness, and not a little of it to a certain pert smartness represented by, "the only hope for the patient is in a mistaken diagnosis" and like free-hand expressions.

When a doctor says he can do nothing more for any patient he is either underrating his abilities, or he should take at least a year off for intensive study before holding himself out as a doctor; when a doctor says Medical Science and Art can do no more for any patient he is speaking falsely, and, at the same time, playing into the hands of the chiropractors, eddyites, *et al*, thus undermining himself and all other regular doctors.

A good doctor can always do something helpful for an ill person. Because he can not *cure* advanced cancer, tuberculosis, paresis, myocardial degeneration, nephritis or diabetes,—in the sense of restoring the patient to his previous condition of health—that does not constitute a reason for gloomily giving up; rather should he remember that *cure* means *to care for*, and that by intelligent sympathetic care many of these patients may be enabled to live out a reasonable expectancy in usefulness and happiness, and all of them relieved, cheered and comforted.

There are many occasions on which consultants should be called in, many for referring patients; but there never was one on which a patient should have been given up to die.

THE TREATMENT OF EXTENSIVE BURNS is an important subject. Scott (*Northwestern Medicine*, July) offers a clear-cut plan of much promise. Judge gravity by hemoglobin concentration: below 120 per cent prognosis good, above 140 per cent prognosis extreme-

ly grave. Give  $\frac{1}{2}$  gr. morphine as initial dose to combat shock and give ease. Soak gauze with 20 per cent sodium bicarbonate solution, cover burned area, this with oiled silk, then thick layer cotton held in place with bandages. Then patient may be transported. Give 2000 c.c. each of 10 per cent glucose and physiological salt intravenously or subcutaneously every 24 hours; morphine  $\frac{1}{8}$  gr. and digitalin 1/100 gr. every hour unless patient is asleep. Tetanus antitoxin as routine. Force liquids for days. Keep wet with soda solution for 24 hours; then prepare for rapid change and thorough clean-up. Dressings will peel off without trouble. Wash with ether, removing dead tissue. Apply 10 per cent stearate of zinc-vaseline ointment and leave on for 8 days if patient is comfortable even if there is a good deal of odor. Often second or third dressing may have to dress oftener.

---

THE HOSPITALS OF THE THIRTEENTH CENTURY were unequalled until the late nineteenth, and excelled in comfort and cleanliness some American hospitals of this day.—William Dock, in *California and Western Medicine*.

---

CHRONIC APPENDICITIS is no pet of ours. Only one of our patients was ever operated on under this "diagnosis"; and this was against our advice and unproductive of benefit. However, we have never gone quite so far as Dr. Russell Boles, Associate Professor of Medicine in the University of Pennsylvania, who stated before the recent meeting of the American Medical Association (we have it on the authority of *The Journal-Lancet*, Minneapolis) that 97 per cent of those operated on for chronic appendicitis get no relief; some get worse, and 3.8 per cent of such operations are fatal.

---

Human sweat has been shown to be an excellent culture medium for certain bacteria, including various higher fungi. Comparative studies reveal that it compares favorably, as such, with various laboratory mediums.—*Archives of Dermatology and Syphilis*, August.

Isn't it wonderful how our natural inclinations serve to starve our bacteria? We have always believed that Nature is generally kindly.

## DEPARTMENTS

### HUMAN BEHAVIOR

For this issue, O. B. DARDEN, M.D.  
Richmond, Va.

#### ALCOHOL

In the *Medical Journal and Record* for February 15th there is a symposium on alcohol. The authors of the various articles are well known clinicians and men of rank in their profession, such as Charles B. Stokard, Samuel W. Lambert, Harlow Brooks, William Henry Porter, and Gregory Stragnell. Every physician interested in this topic—and all of us should be from one standpoint or another—should avail himself of the opportunity of carefully reading these articles. To every physician the alcohol question constitutes a grave problem whether he uses it medicinally or whether he comes in contact with it only in its poisonous state.

Though the action and physiological use of alcohol have been intensively studied for a number of years there still remains much to be learned about its effect on the human organism. Our general knowledge of the action of alcohol is based largely on casual observation and general impressions often gained from a biased or prejudiced investigation rather than upon proven facts. There are, however, certain established facts about alcohol. At the same time there are a great many claims that are so vague and indefinite that no conclusion can be reached until further knowledge is gained.

This discussion is chiefly limited to alcohol from the standpoint of its three well-known actions: alcohol, as a food; alcohol, as a drug; alcohol, as a poison.

#### ALCOHOL AS A FOOD

It is generally accepted that alcohol is a food of high caloric value, ranking second to fats. As a food, however, it cannot be stored by the body, nor is it converted into any form that can be stored. The absorption of alcohol is complete and rapid, the process taking place both from the stomach and from the intestines. It is used immediately to

furnish the body energy and thereby protects the oxidation of the fats, carbohydrates and proteins, preventing a depletion of reserve foods. Thus alcohol can be used to furnish energy for work, but such a use is impracticable, inconvenient, and difficult to regulate. This same quality, however, renders it an excellent substitute for ordinary food in acute diseases when the intake of the usual foods is interfered with.

#### ALCOHOL AS A DRUG

It is no longer believed that alcohol is a direct heart stimulant even though it was formerly considered so by leading clinicians such as Flint, Delafield, Osler and others. The laboratory has played the leading role in furnishing accurate data on the action of alcohol. It acts as a sedative to reflex irritability; a depressant to the nervous centers, relieving the sense of discomfort and restlessness in disease, promoting repose and sleep; a dilator of peripheral vessels, diminishing to some extent the strain on the heart muscle, and at the same time causing a fall in deep temperature by a rapid loss of heat through the dilated surface vessels; it stimulates the appetite. The pharmacology of alcohol is a very difficult and debatable subject. As a sedative it is useful in the acute infections to produce quiet and sleep. At the same time it relieves the digestive tract of a part of its work in digesting fats, carbohydrates and proteins. It may increase the performance of a highly nervous person by decreasing anxiety and self-consciousness whereas the cool and self-controlled person is rendered less accurate by even small doses. This same attribute lends itself admirably for use in the circulatory defects of old age. In angina pectoris, for example, it is not only useful in relieving the attack, but relieves the depression, anxiety, and apprehension in the interim between attacks. The most satisfactory results follow its habitual administration at regular intervals. It may be used just as efficaciously in hypertension with its attendant apprehension, melancholy, and general discomfort. It is contra-indicated, however,



in cases in which the hypertension is dependent upon a renal lesion. It is useful in the hypertension of anxiety, of stressful life, in those cases that have as prominent symptoms disturbances of an emotional or mental character, in the heart of old age, fibrosis of the myocardium, and many other circulatory conditions. In such cases it relieves nervous excitability, produces a sense of well-being, and perhaps contributes to the nourishment of the diseased heart muscle. It must be remembered that in such disease conditions we are treating the patient only by adding to his comfort and in no way are we producing any curative effects upon the disease itself. It is to be deplored that in our present intensive treatment and study of disease we have to a large measure overlooked the patient's reaction to disease and his responses to treatment.

#### ALCOHOL AS A POISON

Nobody disputes the toxic effects of alcohol when injudiciously used. It is not difficult to understand the ease with which the use of the drug might be abused. The unwise and indiscriminate use of the drug has been largely responsible for the discredit into which it has fallen in the medical profession.

#### GENERAL ACTION

It has been shown with experimental animals that individuals may be treated continuously for years with daily doses of alcohol to the point of intoxication without seriously affecting their health or longevity. The organs and tissues of animals exposed to intoxication by fumes of alcohol show no gross or microscopic evidences of disease as a result of alcoholic treatment. No genuine experimental production of cirrhosis of the liver has been produced by alcohol. Heron found only two very doubtful cases of cirrhosis of the liver among 865 inebriate women; no organic disease in 519. Pearl believes heavy drinking seriously impairs life duration in males. This is in accordance with life insurance studies when we consider the mortality among the heavy drinkers is sufficient to show the life expectancy of the entire group of non-abstainers poorer than that of the total abstainers.

## PEDIATRICS

For this issue, R. M. POLLITZER, M.D.  
Greenville, S. C.

#### ABOUT THE THYMUS

While much has been written about the thymus gland since Friedleben in 1858 published his exhaustive monograph, it is only in the last twenty years that the literature has become voluminous on that subject. In 1907 Friedlander published the results of his three year clinical studies. He did very careful work first on animals, then on babies and seemed to conclusively prove that those infants who had a definite symptom-complex, and who showed a wide thymic shadow were greatly benefited or cured by several exposures to the roentgen ray. Following this, many amplified and corroborated his findings. If one goes through the current medical journals he will find from time to time articles that give an account of thymic hypertrophy or the syndrome due to pressure made by the thymus, and that exhibit several illustrative cases.

During the past year such articles have appeared in the *Southern Medical Journal* (J. D. MacRae, Aug. 1927), and *The Archives of Pediatrics* (R. P. Sturr, Dec. 1927, and J. H. West, Jan. 1928, The papers in the *American Journal of Diseases of Children* (Edith Boyd, June 1927.) and in the *Journal of the American Medical Association* (W. W. Wasson, Sept. 24, 1927) are of a different nature. They all have characteristics which are very similar: All have some stridor and some respiratory difficulty; many have difficulty in swallowing; a large number vomit. Cyanosis of a transient nature, less often continuous, is rather common. There is frequently marked restlessness. Some observers note colic in many of their patients. Not infrequently the vomiting and the colic suggest pylorospasm. As a rule there is a history of a recent nasal catarrh. Warthin states that the thymic enlargement is in the nature of a compensatory process generally secondary to infection.

There has been a great deal of dispute as to what it the normal size or weight for the thymus at different ages. Of late it seems to be proven that the figures given by Hammar, later by Scammon, and more recently



by Boyd, are correct. That is, in well nourished children the average weight of the thymus at birth is 13 gm., at 6 mos. 20 gm., and at 13 yrs. 35 gm. In poorly nourished children these weights are greatly diminished.

Much has been written in an attempt to explain the pathogenesis of the thymic symptoms. Some few have asserted that in an analogous way to hyperthyroidism we have here a state of hyperthymatization. However, no one as yet has definitely proved that in mammals the thymus has any internal secretion. The work of Park and McClure (*Am. Jour. of Dis. of Child.*, Nov. 1919), which was thorough and well controlled, proved that the thymus was not essential to life in the dog, and that its removal produced no detectable alteration in any of the organs of development or in the intelligence of that animal.

There are many men who believe that, because of its cramped position in the thorax and liability to change in size, the thymus may readily produce serious pressure on the trachea. Edith Boyd asserts that pressure is made upon the recurrent laryngeal nerve. In either event the stridor and the dyspnea certainly tend to make one believe that there is some pressure interfering with the respiratory tract.

There has of late been a steadily growing protest against the symptom-producing thymus. Many men have lost confidence in the radiographic evidence. Some are of the opinion that where the roentgen ray is of benefit in treatment it is because of its effect on other tissues, such as the bronchioles. Wasson states that some of his cases have been due to mucus in the trachea and bronchi of infants who did not have any infection. He also thinks that often the thymic enlargement, if real, is merely coincidental and not an etiologic factor. However, he feels that roentgen ray therapy is indicated wherever there is a doubt.

The strongest antagonist to the theory of the symptogenetic thymus is John Lovett Morse. In a paper entitled, "The Thymus Obsession," (*Boston Medical and Surgical Jour.*, Feb. 16th), he attacks the value of the radiogram and states that "it is very difficult to decide from a roentgenogram whether the thymus is larger than it ought to be in the given child at the given time. He further gives several illustrative case histories to show up

some diagnostic errors in this field.

Of course this attack on the thymic pressure syndrome is merely the reaction that always comes following excesses. It must be admitted that too often has the diagnosis of thymic enlargement been made without sufficient justification. And it should be conceded that as yet we do not know what the radiographic size of the gland is at different ages or in different size children. We do know that certain diseases cause a loss of weight in the thymus. The whole subject is far more complicated than was formerly thought. We now recognize that our foundation is insecure. A great deal more work needs to be done.

What then ought to be our attitude in the meantime? It seems that the reasonable position is to hold to what we have, for the present, but to do so in a more critical manner. That is, that having suspected thymic enlargement we should seek further, especially considering the sinuses, adenoids, etc., and try to exclude the thymus. However, should we believe from the symptoms and from the roentgen shadow that we have a pressure-producing thymus we are justified and compelled to institute the approved method for its reduction.

---

## EYE, EAR, NOSE AND THROAT

For this issue, V. K. HART, M.D.  
Charlotte, N. C.

### UNUSUAL ANGINAS

Vincent's infection, diphtheria, acute follicular tonsillitis, an ordinary streptococcal pharyngitis, scarlet fever angina, etc., are all usually recognized and the treatment well standardized. Attention is therefore directed to the unusual and the types more apt to confuse the family doctor. Two deserve mention.

First, infectious mononucleosis, which is unfortunately named because the increase is in the lymphocytes. Such may be absolute or relative.

The onset is often with a sore throat which presents no unusual clinical picture. There is moderate adenopathy, and in the early stages a moderate elevation of afternoon temperature. The acute stage soon subsides. A persistent relative lymphocytosis with some adenopathy of the neck, axillae, and groin for six or eight weeks suggests an acute lym-

phatic leukemia. Some apparent "cures" of leukemia reported are probably in reality glandular fever (better name for infectious mononucleosis.)

The outlook for glandular fever is good and treatment wholly symptomatic and supportive. No comment is needed as to prognosis and treatment of an acute leukemia.

The second type is Ludwig's angina. This was described classically in the first half of the nineteenth century by Ludwig. Really a diffuse infection of the structures of the neck characterized by board-like rigidity, displacement of tongue upward and backward, ankylosis of jaw, drooling saliva, marked difficulty in swallowing, and high grade dyspnea.

The etiology in forty to fifty per cent of cases is dental caries, particularly of premolar or molar teeth. Other factors are tonsillitis, trauma, etc. Muckleston states streptococci are invariably present, but the infection is usually mixed. Staphylococcus and colon bacillus are those most frequently found with the streptococcus.

The mortality probably lies between forty and fifty per cent. Hence prompt hospitalization and drainage are justified.

Deep multiple incisions are essential. The deep cervical fascia forms part of the covering of the submaxillary gland, in the lymph glands about which most of these infections begin. The infection is also limited in front by the mylohyoid muscle and behind by the middle constrictor of the pharynx. It is necessary to get beneath these muscles, and often beneath the cervical fascia. Blunt dissection is safest because of the large vessels, particularly beneath the fascia.

The adjuncts to surgery in order of importance are:

1. Frequently repeated hot fomentations, such as saturated epsom salt solution.
2. Fluids subcutaneously and intravenously.
3. Digitalization.
4. Hydrotherapy for hyperpyrexia.
5. Blood transfusions in desperate cases with or without the use of dyes intravenously.

Death may result from: 1. Profound toxemia, septicemia or both. 2. Suffocation (tracheotomy should be done if indicated). 3. Mediastinitis (the infection may follow the great vessels, the trachea, or esophagus).

## LABORATORIES

*For this issue, LAWRENCE H. SNYDER, Sc.D.  
Raleigh, N. C.*

### BLOOD GROUPING UP TO DATE

The necessity of testing blood for compatibility before transfusion is now well recognized. Incompatible blood causes characteristic reactions in the recipient, chief of which are heavy and labored breathing, falling pulse rate, pains all over the body, especially in the lumbar region, hemoglobinuria, and loss of consciousness. If less than 100 c.c. have been introduced, recovery may follow, otherwise death results. It is therefore important to exercise care in the choice of a donor.

It is not always true that the chances of securing a compatible donor are better among the members of the family of the patient. The blood groups follow the mendelian laws of inheritance, and it frequently happens, for example, that the husband and children of a woman patient all belong to an incompatible group. Careful grouping of recipient and prospective donors, plus direct matching as a precaution against accessory agglutinins and donors of exceptionally high titre, are the preoperative safeguards of transfusion.

In grouping donors and recipients, various techniques have been worked out and used. The simplest method providing a rapid and accurate technique is as follows. Test serums of groups II and III are necessary. These may be purchased, or they may be prepared from persons of known groups. A drop of group II serum is placed at one end of a slide, and a drop of group III serum at the other. Into each serum a drop of cell emulsion is allowed to fall. This may be done with a large platinum loop or small pipettes. The slide is then tilted and rotated gently so that the cells are uniformly distributed. A cover-slip may be placed on the mixture after two or three minutes of mixing, if desired. The slides are examined under the microscope. At room temperature, agglutination shows up plainly in from one to ten minutes. The irregular clumps of cells are sometimes visible to the naked eye.

If neither test serum agglutinates the cells, the blood belongs to Moss group IV. If only the serum of group II agglutinates the cells, the blood belongs to group III. If the cells are agglutinated only by group III serum, the blood belongs to group II. If both serums agglutinate the cells, the blood belongs

to Moss group I.

The cell emulsion is made by collecting two or three drops of blood from the ear in a small tube containing 3 c.c. of isotonic saline solution. If the cells are to be kept several hours or more before grouping, it is best to add 1 per cent citrate to the saline solution before collecting the blood.

Test serums should be kept reasonably fresh. A moderate amount of contamination will not injure the agglutinating capacity of the serum. Fatal results have attended the use of old serums, however, so that serums should be frequently checked with cells of known group.

The donor should be chosen if possible from the same group as the recipient. If no donor of the same group is available, use a "universal donor" (Moss group IV). In addition, test the serum of the recipient against the cells of the donor, so as to eliminate the possibility of "sub-groups."

Although the agglutinins are usually established at some time during the first year of life, they have been found in some cases in the blood of new-born infants, and have even been established in a 7-months fetus. A child is frequently of a different group from the mother. Therefore it is not always safe to use a mother's blood in transfusing her infant. The same careful procedure that is necessary in the case of adults must be used in selecting donors for infants.

Much confusion and occasional fatalities have arisen from the use of two separate classifications of blood groups, the Moss and the Jansky systems. The Jansky system has priority rights, and has been recommended for universal adoption, but the Moss continues to be used. Since groups I and IV are interchanged in these classifications, much trouble is often caused by the failure to specify which system is being used. To obviate this, a new classification is coming into vogue, based on the agglutinogens found in the red cells. The new nomenclature is simple and easy, and should be universally adopted. The groups are designated O, A, B, and AB. The following table shows the correlation of the Moss and Jansky classifications with the new designations.

	Jansky	Moss	New
group	I	IV	O
group	II	II	A
group	III	III	B
group	IV	I	AB

## ORTHOPEDIC SURGERY

For this issue, J. S. GAUL, M.D.  
Charlotte, N. C.

### BACK-ACHE

The report on the subject of backache, made by Doctors Billington, Willis and O'Reilly, acting as a committee for the Clinical Orthopedic Society, and published in the April number of *The Journal of Bone and Joint Surgery*, is one well worth reading.

The summary made by them is herewith reproduced in full: "This review of the answers to the questionnaire shows that there are many opinions on low backache, but on the whole there is a fairly definite agreement, not only as to the main causes of backache, but also in general as to treatment. The chief point of difference would appear to be on the question of sacro-iliac sprain. The majority believe there is such a condition. Those who do not believe in a sprain or strain, are very firm in their beliefs. Nothing has appeared in this study to prove or disprove the contention.

It does seem, however, to be possible to outline a fairly consistent course of treatment based on the cause and diagnosis.

Broadly, the causes of low backache are arthritis, trauma, and posture.

Arthritis may include osteo-arthritis, and the toxic conditions due to intestinal absorption, or foci of infection including the teeth, tonsils, sinuses, gall-bladder, and other points.

The traumatic conditions include those forms of backache which are the result of direct trauma.

Postural backache is due to static errors resulting in muscular, ligamentous and possibly long strain, due to improper alignment.

The so-called anomalies of the fifth lumbar and first sacral can reasonably be put in the postural group. They probably do not begin to cause symptoms until their alignment has been disturbed as a result of some postural defect or trauma.

These three types, although apparently clearly differentiated, are in reality closely associated, and one form may induce one or both of the others, so that in chronic backache all three may have played an important part.

A careful diagnosis must be made in all cases, based on a careful history, past and present, and a careful physical examination, including a gastro-intestinal, and a search for



all possible foci of infection.

The acute traumatic conditions are diagnosed by the history and physical findings, by muscle spasm, localization of pain and points of tenderness, and by the x-ray when there has been some bone injury.

Differentiation between sacro-iliac and lumbo-sacral lesions causes the greatest difficulty.

In sacro-iliac strain there is pain over the sacro-iliac joint and in the sacro-sciatic notch. Straight leg raising, especially before the spine begins to move, causes pain in the joint, as is also the case with the cross leg test. In lumbo-sacral the pain is higher and nearer the midline. In lumbo-sacral conditions straight leg raising is apt to cause pain on both sides. In sacro-iliac, pain is referred down the back of the leg; in lumbo-sacral, down the front of the thigh. In sacro-iliac, compression of the crests of the ilium may cause pain.

In lumbo-sacral conditions that region is rigid, and forward bending is at the hips. In sacro-iliac the forward bending takes place in the lumbar spine. In the sitting position forward bending is free in sacro-iliac conditions; in lumbo-sacral lesions no difference is noted.

The importance of a definite diagnosis between sacro-iliac and lumbo-sacral lesions is evident if some operative procedure is to be undertaken.

Postural conditions are usually easy of diagnosis, but in this condition the feet must always be considered.

Arthritis can be diagnosed on the history, the physical findings, and the x-ray. In the early arthritic cases and in those cases due to toxic irritation, the x-ray may be negative.

**Treatment:** In the acute traumatic conditions the treatment is of rest, followed by physiotherapy. Rest may be obtained in the milder cases by adhesive plaster strapping. In the severe cases recumbency is necessary, if in bed, the bed should be hard. In the more severe types a plaster jacket or shell may be necessary, with or without traction. The fixation should be as complete as possible. Rests should be continued for a considerable period.

Physiotherapy should be used as early as possible.

In some cases of acute sacro-iliac strain, manipulation may be used.

In chronic backache, all postural defects must be corrected, and when arthritis or toxic irritation is present, all foci of infection must be removed, elimination promoted, and the diet regulated.

Sacro-iliac supports and spinal braces and corsets may be used, together with the postural exercises and muscle training and physiotherapy.

In old chronic and persistent cases, some ankylosing operation may give relief, provided the diagnosis has been carefully made. The removal of large transverse processes does not seem satisfactory, and probably as good results can be obtained by postural training and mechanical support."

In commenting on this report it seems to me that the emphasis is properly placed on the history and diagnosis. This is particularly true in the traumatic cases. It would appear to be the rule rather than the exception in these cases, for the severer symptoms to intervene at a more or less prolonged period following the receipt of the trauma. Prudence demands the withholding of an immediate negative report following trauma to the lower back, especially in cases where liability is involved.

The important things to be realized are that there are many structures in the lower back which may be injured, and that the sacro-iliac joints are not the only structures which may be compromised.

It is not an infrequent thing to see patients wearing some form of sacro-iliac belt when the lesion is in the lumbar spine. In this connection it is well to note the injury may be one of the quadratus lumborum muscle or it may be a purely ligamentous involvement.

Attention is properly called to foot conditions, as well as to other postural defects.

In all probability too much emphasis is placed on foci of infection. Their eradication entails much hospitalization and expense for the patient, often without benefit, when in so many cases, much simpler procedure brings about the relief the patient seeks.

There can be no excuse for wholesale operating in these cases. It would seem that in the average case, granted it be one involving the sacro-iliac joint (for operations are being performed to arthrodese this joint when the pathology is located elsewhere), there should be no more necessity for ankylosing a recently sprained sacro-iliac joint, than for an-



kyosing a sprained ankle joint.

Surely there is as much motion and weight bearing sustained in the latter as in the former.

If we conceive these injuries, when first seen, to be trauma to the back and, then, by means of a careful history and examination endeavor to particularize as to the damage sustained we will meet the problem more intelligently.

## UROLOGY

### SYMPTOMS OF URETERAL STRICTURE

For this issue, CLAUDE B. SQUIRES, M.D.  
Charlotte, N. C.

In recent years we have had at our disposal an abundance of literature dealing with ureteral stricture and its innumerable symptoms. Such symptoms are always worthy of discussion and it is our desire to review them briefly.

Pain is the most widespread symptom and the localization of pain arising in the internal organs is very inaccurate. The pain arising from ureteral stricture is variable and deceiving. Such pain is not always typical of "kidney colic" but is frequently accompanied by varying degrees of a similar feeling. There is a form of pain called "reno-renal" or pain referred to the side opposite the one showing pathology. Backache and abdominal pain of a dull aching character quite frequently are caused by ureteral stricture. The pain is often paroxysmal in character and disappears suddenly. It may be referred downward and inward to the groin or may be localized in the kidney region. Patients suffering with ureteral stricture quite often have constitutional symptoms, such as chills, fever, nausea and vomiting. Hematuria and frequency of urination are not uncommon and a great majority of these patients are of the nervous type. A large number have consulted numerous physicians, have had numerous abdominal operations and are finally classified as neurasthenics. We quite often see patients of this type who are constantly complaining of some ailment and who have gone for years without relief. During the search for trouble in the urinary tract perhaps no gross pathology may be found although a ureteral catheterization with its inevitable dilatation may have been done as part of the urologic ex-

amination. These patients are entirely relieved of their symptoms for a period of four to six months, and when they feel a return of their former symptoms they return desiring another dilatation or catheterization of the ureters. Some of them are permanently relieved by the single treatment. The writer has discussed this with other urologists and they too have had similar experience.

The severity of the symptoms vary from the slightest to the severest form. It is only by thorough study of the walls of the ureters that one may make the diagnosis or offer any assurance of relief from these symptoms. Ureteral obstruction due to inflammatory or cicatricial narrowing of the lumen in its earliest stages may easily be overlooked.

## INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., Editor  
Asheville, N. C.

### CITING CERTAIN VALUABLE ARTICLES

In the *American Review of Tuberculosis* for July, 1928, are two excellent articles, one by Dr. Charles R. Austrian entitled "Remarks on the Clinical Diagnosis of Pulmonary Tuberculosis," and one by Dr. Allen K. Krause entitled "Remarks on the Laboratory Diagnosis of Pulmonary Tuberculosis."

These two papers should be read and re-read by every internist. Nowadays tuberculosis is still being overlooked far too often on the one hand, and, on the other, too many individuals are being branded and treated as tuberculous when, as a matter of fact, their ailment is not caused by the tubercle bacillus.

Dr. Austrian's article is so pithy that it really cannot be satisfactorily abstracted. The editor has chosen some particularly striking sentences which will, he hopes, stimulate his readers to drop a card to Dr. Austrian, 1417 Eutaw Place, Baltimore, Md., asking for a reprint.

"Erroneous conclusions can be avoided only when every examination of every patient is a complete one, and when each specialist is something of an internist and each internist something of a specialist."

"Prolonged extramural and extradomiciliary contact in infancy and childhood are important sources of contagion, and evidence is accumulating to indicate that exogenous infection in adult life is frequent."

"Until proved otherwise, the coughing up of blood suggests phthisis, even when other symptoms and physical signs are lacking."

"Gastro-intestinal disturbances, often vague and ill-defined, developing, disappearing, recurring without apparent provocation, are frequent in early pulmonary tuberculosis, and, when primary disease of the digestive apparatus can be ruled out, are very suggestive."

"The failure of the general practitioner promptly to recognize that pulmonary tuberculosis is the cause of his patient's complaints results more often from lack of time and failure thoroughly to examine the individual than from want of information."

"It is doubtful if the unpracticed will find percussion of much assistance in discovering slight changes in the lungs."

*"The most constant and significant sign of tuberculosis of the lungs is a shower of medium moist inspiratory rales heard constantly over one or the other apex, in the first or second interspace, or above the spine of the scapula with or after expiratory cough."*

"The apex of the axilla should be explored in every patient."

"Persistence and site are more significant than is the character of the adventitious sounds."

"Valuable aid that it is, the x-ray is not infallible, and in no case can the utilization of it take the place of a careful physical examination and a clinical survey."

Dr. Krause's paper can also not be well abstracted for it is crammed with important statements which are given in the author's charming style. A few quotations will show the trend of his argument.

"\* \* the importance of keeping everlastingly at examining the sputum in every still undiagnosed case, or every case considered as tuberculous yet with sputum reported as negative. Hence, too, the value of other methods of approach, such as the examination of throat swabbings of infants or children, who are ostensibly without expectoration, or of the faeces of children and of some adult patients who deny expectorating."

"As it stands now, one must believe that the permanently sputum-negative cases, under treatment for active tuberculosis, include a not inconsiderable proportion of non-tuberculous conditions."

"Never make a diagnosis of tuberculosis

absolute on the strength of an observation of one lone man-adjudged tubercle bacillus. A specimen that will disclose one bacillus will yield more."

The latter part of Dr. Krause's paper deals with the necessity for the far greater employment of the cutaneous and intracutaneous tuberculin test and he states that a far larger proportion of adults will give a negative reaction than was formerly thought to be the case.

This article is one of extreme interest and importance. Send to Dr. Allen K. Krause, Johns Hopkins Hospital, Baltimore, Md., for a reprint and study it well.

Blood chemistry is being used more and more as a diagnostic and prognostic measure. The physician in the vast majority of instances cannot and need not know the technique of the laboratory procedure. He must merely know the significance of the results and their interpretation.

In the *Journal of the A. M. A.* for July 21, 1928, Dr. Reed Rockwood, Lombard and Greene streets, Baltimore, Md., has an excellent paper entitled "Chemical Tests of the Blood; Indications and Interpretations." He points out the objects of the tests, the waste of time in doing certain tests unless others show the necessity therefor, and presents the whole question of clinical blood chemistry most lucidly.

A few of his "Clinical Aphorisms" will indicate the scope and value of the paper:

1. Never ask for both non-protein nitrogen and urea determination in the same patient.

2. Except in emergency, never ask for a non-protein nitrogen determination when the excretion of phenolsulphonphthalein is normal. Determine the output of phenolsulphonphthalein first.

3. Never ask for the creatinine value of the blood unless the non-protein nitrogen content is above 60 mg. Then determine the concentration of creatinine as a matter of routine.

4. Order determinations of the uric acid content in cases only of gout or suspected gout.

5. Order blood sugar determinations in cases only of diabetes or of suspected diabetes or hypoglycemia.

There are other important aphorisms that Dr. Rockwood gives but the five quoted give

an idea of his contentions.

Space does not permit further discussion of papers, but the editor strongly recommends one more article by Dr. Harold E. B. Pardee, 160 East 64th street, New York, entitled "Clinical Observations on the Use of Intravenous Digitalis Preparations," which is to be found in the same number of the *Journal of the A. M. A.* as the paper by Dr. Rockwood. Dr. Pardee's knowledge of the heart gives his paper the stamp of authority. It is brief, convincing, well thought out and decidedly valuable.

---

## SURGERY

GEORGE H. BUNCH, M.D., *Editor*  
Columbia, S. C.

### "APPENDICITIS"—H. A. ROYSTER

In the last decade there have been comparatively few papers on appendicitis. Evidence of renewed interest in this disease is shown in an editorial, "Present Day Aspects of Acute Appendicitis," in *The Journal of the American Medical Association*, July 21, 1928, in which it is asserted that recently collected figures from the Bureau of Vital Statistics show that about 25,000 people die annually in the United States from the acute condition. Quain and Waldschmidt in *Archives of Surgery*, April, 1928, say there has been an increase of 30 per cent in the mortality of acute appendicitis in the last decade. They attribute this deplorable condition largely to the giving of castor oil, salts, and toher cathartics not only by laymen but by physicians. Safety lies in early operation. Many deaths are still the result of "cathartic" peritonitis.

In the *American Journal of Surgery*, July, 1928, there is an editorial by John H. Watson of Burnley, England, in which the subject of appendicitis in Great Britain is discussed. He quotes Rayner as attributing the apparent increase in mortality from appendicitis to more accurate diagnosis. As proof he gives from the Manchester Royal Infirmary report 550 cases of acute appendicitis admitted in 1913, 1914, 1915 (5.4 per cent of the total admissions) with a mortality of 12.6 per cent. In 1924, 1925, 1926, 830 cases were admitted (7.6 per cent of the total admissions) with a mortality of 5.7 per cent.

Appleton in 1927 has published a 370-page

monograph on appendicitis by H. A. Royster which is monumental in its comprehensive treatment of the subject. The binding is neat, the printing is good and legible, the plates are artistic. The style is pleasing. The subject matter has been gathered from medical literature everywhere and is presented by this distinguished surgeon both from the literature and from his own rich experience. The bibliography is complete. The opening chapter is a historical sketch of the disease and is itself worth the price of the book to one interested in that phase of the subject. Anatomy, physiology, etiology, pathology, symptomatology, diagnosis, prognosis, and complications—each fills a chapter.

Appendicitis in children is given a special chapter as the author aptly says, "The difficulties in its diagnosis, its relatively high mortality, its frequent complications, its characteristic pathology give the disease a peculiar interest when occurring in children." He warns against the use of castor oil and stresses early diagnosis and early operation.

We think Dr. Royster is at his best in the chapter on treatment. Whether to operate, when to operate, and how to operate are discussed in an interesting and helpful way both to the recent graduate and to the experienced surgeon. He gives due recognition to the Ochsner method of treatment by physiological rest and deferred operation in the cases of acute perforation with beginning diffuse peritonitis. These are the cases that give the high mortality in appendicitis and with rest until localization of the infection has taken place operation can be more safely done.

The author's preference for the McBurney incision in the cases in which appendicitis is the evident lesion is proper. He reserves the right rectus incision for the cases in which exploration of the gall bladder, duodenum and stomach are also indicated. An incision through the rectus is quite vascular and has in our experience because of the lateral pull of the other abdominal muscles a decided tendency to post-operative hernia. His use of a stab wound for drainage allows the primary wound to heal more quickly and more surely. His practice of removing the appendix in the abscess cases when possible without undue manipulation and trauma lessens both mortality and morbidity. Although the perfor-



ated appendix unremoved may not give further trouble, drainage in these cases is always prolonged and the development of a second perforation in later years are not unknown.

We take issue with the conclusion of the author that appendectomy should not necessarily be done in the course of other operations. It has been for years our practice to remove the appendix as a routine whenever the condition of the patient warrants the few minutes delay. In gall-bladder and ulcer cases appendectomy is recognized as a necessary part of the surgical treatment. In pelvic inflammatory disease the appendix is involved secondarily in the pathology and if not removed continues to give symptoms. Appendicitis is the most common abdominal lesion for which operation is done and if the appendix can be removed at laparotomy without undue risk we think it should be done.

Dr. Royster's book is a work of art, a credit to himself and to southern surgery.

## PERIODIC EXAMINATIONS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*  
High Point, N. C.

### HEALTH EXAMINATIONS OF NEGROES

Data on the periodic health examination of negroes are scarce. It is, therefore, a rather unique piece of work which Miss Margaret Edwards, a staff associate of the Division of Health Education of the American Child Welfare Association has done in co-operation with the North Carolina State Board of Health and the president of the Winston-Salem Teachers' College (colored), when she made a health survey of the 299 students in the summer school there.

Nineteen defect groups were noted as follows:

	% of Students Involved
Stained teeth .....	95.3
Decayed teeth .....	82.0
Diseased gums (chiefly pyorrhea).....	79.7
Underweight .....	37.0
Defective vision .....	35.3
Throat trouble (chiefly diseased tonsils) .....	30.0
Overweight .....	28.0
Suspicious heart disturbance .....	13.0
Suspicious thyroid disturbance .....	9.0
Suspicious lung disturbance .....	8.3
Abnormal nose condition .....	8.0

Very poor nutrition .....	5.7
Bad condition of feet .....	4.3
Skin disturbance .....	4.0
Diseased eyes .....	3.7
Enlarged glands in neck (probably due to bad tonsils) .....	3.3
Defective hearing .....	3.0
Very bad posture .....	1.3
Diseased ears .....	1.0

The report obviously neglects many things of great importance in health examinations. The total absence of any mention of gastrointestinal, renal, genito-urinary diseases, abnormalities of blood pressure, diabetes, nervous disturbances, etc., and the lack of data on deleterious habits of living, indicate very incomplete examinations, or at least, incomplete statistics therefrom. However, the essential thing is that a start has been made in health examinations among the colored race. A few points are rather striking in the data presented, as follows:

1. Bad teeth involve almost all negroes, despite the myth that their teeth are relatively immune to disease.

2. Thyroid disease is by no means rare among negroes.

3. There is a striking agreement in certain features with our experience in health examinations among white persons, notably the following:

a. Multiple defects are the rule—in 299 examinations, 1,356 defects were noted—an average of about  $4\frac{1}{2}$  defects to each person.

b. Defective vision and diseased tonsils

c. Abnormality in weight is a frequent defect.

d. Heart and lung disturbances are noted in a very considerable number of cases, and present a highly important problem, especially as regards the mortality rate of the future.

It is to be hoped that this pioneer work will enlist the interest of colored physicians and nurses in periodic health examinations, and that through them the work will spread as rapidly in their race as it is spreading in the white race.

## OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville, Va.

### MANAGEMENT OF FORCEPS DELIVERY

In our study of obstetrics we learned the history of forceps and have some idea of the



progress made in the mechanical principles involved. Even though we have made progress in devising a better forceps each time one is made, there is a possibility of someone making a forceps that is even better than any of the ones we have for use at the present time. The discovery of forceps and the improvements in the various makes have been a blessing both to the mother who is to be delivered and the physician who is to assist nature in giving birth to a new human being.

It is not our purpose in this article to give all the indications for use of forceps, but to offer some very practical suggestions as to when forceps are indicated and then how to use them.

The dimensions of the birth canal and of the baby should have been estimated as accurately as possible. If labor pains have persisted over a period until the cervix has been thoroughly dilated and the head is engaged properly; if the position of the baby is either L. O. A. or R. O. A., and the head has passed through the superior strait, is either in the mid strait or down on the pelvic floor, and the uterine contractions are not sufficient to force the head of the baby through the birth canal, and there is evidence that the mother is approaching the period of exhaustion; then, with an assistant who will give an anesthetic to complete relaxation, forceps may be applied with success and safety. The attending physician should use the kind of forceps with which he is best acquainted. If he uses a lock forceps he should be sure not to use any pressure in locking the forceps, because if much pressure is made in locking them much damage may be done to the head of the baby.

In case you do not have an L. O. A. or R. O. A. position and the head is transverse or in the L. O. P. or R. O. P., or the occiput points posterior, the attending physician should rotate the head before trying to apply forceps. When the head is rotated in the proper position the forceps may be applied. If the occiput is pointing posterior and it can not be rotated, unless the attending physician is absolutely sure that the head is a little smaller than the birth canal, it is rather dangerous to apply forceps because of the damage that will be done to the birth canal.

If there are signs of exhaustion of mother, uterine contractions are not sufficient to expel baby's head, birth canal is of proper size, head not too large; then iron out the pelvic

floor thoroughly after patient has been completely anesthetized, apply forceps slowly, carefully, accurately and with not too much force. Now, pull on forceps and apply only enough traction to move the baby's head gradually through the birth canal. After a half minute or a minute, rest for a minute or two, then pull again. It may take ten, fifteen, twenty or thirty minutes to deliver the head, but if in the process of delivery the heart sounds are watched the attending physician will get much better results by acting slowly instead of rapidly. After the head has been slowly brought through the birth canal, just as the face is coming over the perineum, forceps may be removed. Then, for the protection of the perineum, rotate the head slightly to the right in case it is an L. O. A. and slightly to the left in case it is a R. O. A. After the head has been delivered rest for two or three minutes; get all the secretions from the mouth of baby, then as uterine contractions ensue the shoulders may be gradually delivered, then the trunk, then the feet. Place the baby on the abdomen of the mother, and examine the pelvic floor for lacerations, repairing any present. Then cord may be severed, baby may be measured, weighed and cord dressed. While you are doing this the afterbirth may be expelled spontaneously. If it has not been expelled in thirty minutes, with whatever method you are best acquainted, deliver it. During all of this time patient should be kept more or less under anesthetic so in case you discover any damage done to the cervix it can be repaired following delivery of afterbirth.

---

## NEUROLOGY

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston, S. C.

### THE AFTER-TREATMENT OF ANTERIOR POLIOMYELITIS

There are few diseases which inspire greater apprehension, especially in the minds of parents, than infantile paralysis. Of course the reason for this horror is the fact that sequelae are so common and severe. There are many things of interest in connection with this crippling disease which will bear mentioning.

Recent epidemiological study has shown that poliomyelitis is primarily a general infection in the course of which a comparative-

ly small percentage suffer invasion of the nervous system. It is said that in any given epidemic for every case which presents nervous symptoms there are three or four children who present merely generalized symptoms of respiratory or gastro-intestinal type. This idea of course not only puts us upon our diagnostic mettle during an epidemic, but it also explains many puzzling things about the transmission of infantile paralysis.

When the virus of poliomyelitis enters the nervous system it almost always attacks the anterior horn cells of the cord and brain stem. The resulting effect is therefore a lower motor neurone paralysis, partial or complete. This type of paralysis is signalized by lack of power with loss of reflexes, and trophic disturbances. Sensory symptoms also occur because of inflammatory changes in the posterior portions of the cord, but these are not as typical and distinctive as the anterior horn cell lesions.

More than in any other infectious disease, the question of after results in poliomyelitis is tremendously important. I do not intend to discuss the handling of the acute stage. Suffice it to say that the most important question of that problem is the efficacy of the several types of serum. There is much difference of opinion, but this much is clear. The sera must be given very early to have any effect. If one waits until the paralyses are plain, it is hard to see what good results can be expected.

The after treatment is the question I wished to accentuate. It must be borne in mind that the lesions are not in the muscle fibers, but in the cells of the spinal cord. If these cells are killed, no new nervous cells will grow. However, inflamed nervous cells often show marked recuperative power. This is clearly evidenced in herpes zoster, or shingles. In infantile paralysis therefore our attention should be on the cells in the cord, and not, as is the case too often, upon the involved muscles. Draper has pointed this out several times. *Early manipulation and attempted use of the affected muscles is absolutely contraindicated.* One might think of nerve cells in the cord as feeble batteries, almost run down but capable of great recuperation if allowed to rest. Every muscle movement further exhausts this living battery and brings it nearer to death. Absolute rest

is the solution. By means of splints and other measures, the limbs should be placed in a position where the muscles are at rest. There they should be kept for weeks or months, at complete rest. The exact interval must depend upon the extent and severity of the lesions. Certainly no movement should be attempted for a month, and in some cases three or four months. Then should begin first passive manipulation, massage, gentle electrical stimulation, gradually becoming more active.

Careful and unremitting after-care following the principles outlined above, has wrought miracles. As Draper says, "If the management of the first weeks and months of the paralysis is properly carried out there should never again appear the frightful examples of crippling and deformity which have characterized the disease in the past and made it such a hideous menace."

---

## PUBLIC HEALTH

For this issue, ROY K. FLANNAGAN, M.D.  
Assistant Health Commissioner of Virginia

"I'VE GOT IT; COME AND GET IT!"

A short while ago, in talking with a physician, who is also health officer of one of our large and progressive Virginia counties, he said that one of the great handicaps under which health work labored was the attitude of many private practitioners toward the general public and to those private individuals whose medical needs were served by other physicians.

This attitude he gave in the physician's words as follows: "I've got it, come and get it." "If you are sick or disabled, here I am ready to help; come on in, the water's fine, but it is no part of my duty to call attention to the manifest ravages of hidden disease, that I, as a skilled observer so often see revealed in the faces of friends and companions, who make no complaint to me. I do not feel any particular responsibility for the conditions around me that tend to promote the spread of communicable disease. My mission is to cure, or to attempt to cure those who consult me; I have no call to keep folks from getting sick, or to volunteer scientific information, however much it may be needed, in an individual case. You health officers needn't bother me with your troubles; I am

only academically interested in the public health idea."

Did this health officer set up a straw man? Is it true that any considerable number of physicians hold this view? If so, then let such physicians examine the situation such an attitude places them in.

Here is a great mass of humanity, ignorant in the main of the functioning of their own bodies, and of the principles underlying the care of them; oftentimes regarding disease as a visitation of the Almighty, or due to the maladjustment of a muscle, a nerve or a segment of the back-bone, a condition that they have perhaps been persuaded may be charmed away by prayer, penance or a "therapeutic thrust," whatever that may mean. Poor people, wandering as it were in a maze of misinformation and darkness, literally blind folk blindly led into errors of thought and action, that but for the disastrous consequences to health and life would be ludicrous in the extreme.

The regular medical profession represents the only group in the body politic that is prepared to teach and to lead this great army of the ignorant and credulous, who are now swayed by the plausible sounding appeals of the advertising specialist and quack.

Is the medical profession going to do anything about it? Can anything be done? Shall the doctor continue to ask in effect, "Am I my brother's keeper?", and then answer, "No?" The traditional interpretation of our

ancient ethical code would seem to encourage this attitude, and yet the situation to honorable men, who are also possessed of a sense of social responsibility, is intolerable. Some method must be devised by the profession to give necessary knowledge to the public in such a way as to compel attention. Some way, too, must be found to so link up the doctor to public health activities, that in the act of co-operation he will not suffer in prestige, or, if such a thing is possible, in pocket-book either.

This is a problem to which medical statesmen should set their minds.

In 95.6 per cent of patients with exophthalmic goiter, a relative immunity to cinchonism exists; large doses of quinine may be taken with impunity and even with benefit. This is the basis of the quinine diagnostic test for exophthalmic goiter, which is submitted as an asset in the differentiation of this disease from such conditions as effort syndrome, early tuberculosis, neurasthenia and other conditions commonly confused with exophthalmic goiter. In the form of the hydrobromide or the sulphate, quinine is a valuable constituent of the therapeutic armamentarium of the internist who treats patients with exophthalmic goiter, and should be given in the average case in much larger doses than has been the custom.

—Israel Bram, Philadelphia, in *Archives of Internal Medicine*, July, 1928.

## NEWS

### A PROGRAM OF UNUSUAL INTEREST

The Inter-State Post Graduate Assembly of North America will meet at Atlanta, October 15th, 16th, 17th, 18th and 19th, 1928. On the First Day Diagnostic Clinics will be held by Drs. C. J. Miller, New Orleans; W. A. Bastedo, New York; J. M. T. Finney, Baltimore; J. S. Horsley, Richmond; D. C. Balfour, Rochester, Minn.; L. R. DeBuys, New Orleans; and J. F. Erdmann, New York. A Symposium on Gastro-Intestinal Diseases will be participated in by Drs. P. P. Vinson and D. C. Balfour, Rochester, Minn.;

and Drs. T. G. Orr, Kansas City, Mo.; J. M. T. Finney, Baltimore; J. T. Case, Battle Creek; J. S. Horsley, Richmond; G. E. Waugh, London, England; J. B. Deaver, Philadelphia; Charles Macauley, Dublin, Ireland; W. A. Bastedo, New York; and J. F. Erdmann, New York. Addresses will be made by Drs. J. S. McLester, Birmingham; L. R. DeBuys, New Orleans; and C. Jeff Miller, New Orleans.

On the Second Day Diagnostic Clinics will be held by Drs. F. W. Marlow, Toronto; J. O. Polak, Brooklyn; H. H. Cabot, Ann Arbor; J. B. Deaver, Philadelphia; Wm. E.



Lower, Cleveland; W. B. Coley, New York; P. P. Vinson, Rochester, Minn. Drs. J. C. Bloodgood, Baltimore; and W. B. Coley, New York, will speak on cancer.

Symposium on Diseases of the Genito-Urinary Tract will follow in which Drs. H. G. Beck, Baltimore; H. H. Young, Baltimore; Wm. E. Lower, Cleveland; J. F. McCarthy, New York; A. Ralph Thompson, London, England; Hugh Thursfield, London, England; V. C. Hunt, Rochester, Minn., will take part; this to be followed by an address by Dr. Edmund L. Gros, Paris, France.

Those holding the Symposium on Gynecology will be Drs. F. W. Marlow, Toronto; J. O. Polak, Brooklyn; O. Beuttner, Geneva, Switzerland; and Wm. Ibbotson, London, England.

The Diagnostic Clinics for the Third Day will be held by Drs. Harlow Brooks, New York; W. D. Haggard, Nashville; V. C. Hunt, Rochester, Minn.; C. A. Hamann, Cleveland; W. E. Dandy, Baltimore; and E. P. Joslin, Boston. In the afternoon will be heard papers as follows: "Echinococcus Cysts," Dr. D. J. Cranwell, Buenos Aires, Argentina; "The Nature of Disease," Mr. J. E. R. McDonagh, F.R.C.S., London, England; "The Emergency Function of the Spleen," Dr. W. B. Cannon, Boston; "Choice of Anesthetic Methods with Relation to (1) Age of Patient; (2) Location of Disease; (3) General Condition of Patient," Dr. H. H. Cabot, Ann Arbor; "Surgical Treatment for Auricular Fibrillation Occurring in Toxic Goiter," Mr. T. P. Dunhill, F.R.C.S., London, England.

Later a Symposium on Diseases of the Respiratory System by Drs. G. P. Muller, Philadelphia; L. S. T. Burrell, London, England; W. L. Keller, Washington; C. A. Hedblom, Chicago; and J. M. Waugh, Cleveland.

At the following Public Meeting "Polio-myelitis" will be discussed by Dr. W. D. Ayer, Syracuse; "Diabetes in Children," by Dr. E. P. Joslin, Boston; and "Pneumonia," by Dr. Harlow Brooks, New York; and Dr. W. D. Haggard, Nashville, will make an address.

The Fourth Day's Diagnostic Clinics will be given by Drs. C. A. Elliott, Chicago; A. D. Bevan, Chicago; C. H. Frazier, Philadelphia; and F. H. Lahey, Boston; and papers will be read: "The Effects of Intestinal Protozoa," by Dr. K. M. Lynch, Charleston; and

"Pellagra of Today," by Dr. S. R. Roberts, Atlanta.

A Symposium on Diseases of the Gall-bladder and Liver by Drs. J. L. Bollmann and A. M. Snell, Rochester, Minn.; C. A. Hamann, Cleveland; and F. H. Lahey, Boston. "Glaucoma" will be the subject of Dr. L. W. Fox, Philadelphia; "Surgical Treatment of Trigeminal Neuralgia," Dr. C. H. Frazier, Philadelphia; "Localization of Brain Tumors," Dr. H. C. Naffziger, San Francisco; "The Diagnosis and Treatment of Spinal Cord Tumors," Dr. W. E. Dandy, Baltimore; "Surgery of the Spleen," Dr. A. D. Bevan, Chicago; "A Useful Syndrome in the Clinical Recognition of the Syphilitic," Dr. W. W. Graves, St. Louis; "Deviations from the Standard," Dr. Otto F. Leyton, London, England. Addresses will be made by Mr. J. Howell Evans, F.R.C.S., London, England; Dr. C. A. Elliott, Chicago; Mr. Archibald Young, F.R.C.S., Glasgow, Scotland; Dr. Jack Witherspoon, Nashville; Dr. Morris Roch, Geneva, Switzerland; Dr. Donald Core, F.R.C.S., Manchester, England.

The Fifth Day's program will open with Diagnostic Clinics by Drs. L. F. Barker, Baltimore; D. D. Lewis, Baltimore; H. A. Christian, Boston; John Phillips, Cleveland; G. W. Crile, Cleveland. This followed by a Symposium on Disease of the Heart and Circulatory System by Drs. E. S. Smith, St. Louis; J. B. McElroy, Memphis; Harlow Brooks, New York; A. D. Warthin, Ann Arbor; H. A. Christian, Boston; and John Phillips, Cleveland. Addresses by Mr. L. L. Cassidy, F.R.C.S.I., Dublin, Ireland; Sir Farquhar Buzzard, F.R.C.P., Oxford, England; and Dr. G. W. Crile, Cleveland; papers on "Acute Osteomyelitis," by Dr. D. D. Lewis, Baltimore; "The Plastic Colon and Its Concomitants," Dr. L. F. Barker, Baltimore; "Cause and Treatment of Peptic Ulcer," Dr. C. H. Mayo, Rochester.

Other special addresses will be made the meeting by Dr. W. A. White, Washington; Professor L. S. Dudgeon, F.R.C.P., London, England; Mr. Farquhar Macrae, F.R.C.S., Glasgow, Scotland.

THE SOUTHERN MEDICAL ASSOCIATION will meet in Asheville in November, as arranged at the last meeting. Attention is called to this because of the circulation of an unfavorable rumor that it had been decided to take



the meeting to some other city.

---

DR. and MRS. HUBERT ROYSTER, of Raleigh, left for Montreal, Canada, July 31st, and will sail from there for England and other European countries. They were joined by Dr. James Royster, of Chapel Hill, who will make the trip with them.

---

DR. J. F. HIGHSMITH, Fayetteville, sailed for Europe on August 4th. He will take the Summer Vacation Course in Surgery of the School of Medicine of the Royal Colleges, Edinburgh, and travel extensively on the Continent. He will be accompanied by his son, Dr. J. F. Highsmith, jr., who has just completed an internship at the Methodist Episcopal Hospital, Philadelphia.

---

THE WILLIAM LEROY DUNN CLINIC, Asheville, founded as a memorial to Dr. Dunn, will be conducted by Drs. Charles D. Colby and George C. Battle, both for many years associated with Dr. Dunn. With Drs. Colby and Battle will be associated Dr. Karl Schaffle and Dr. David L. Beers.

---

DR. WILLIAM D. HILLIARD, 70, Jefferson '78, was found dead in his suite at the George Vanderbilt hotel, Asheville, August 15th.

---

DR. SAMUEL B. ELLINGTON, 76, formerly county physician of Rockingham, died August 3rd, at Winston-Salem. Dr. Ellington had made his home at Myrtle Beach, S. C., for the past few years.

---

DR. EDWARD FRANCIS, of the United States Public Health Service, Washington, was pre-

sented a gold medal by the American Medical Association at the meeting recently held in Minneapolis. The committee on awards considered his research work on tularemia as the most important medical work of the year.

---

DR. LOUIS LEAKE PUTNEY, a member of the medical staff of the Western State Hospital at Staunton, Virginia, for several years, died in his home on July 26th, at the age of 38. Dr. Putney was a graduate of the Medical College of Virginia, class 1914.

---

DR. JULIAN R. BECKWITH, of Petersburg, Virginia, died at his summer home in Prince George county July 28th. Interment was in Blandford cemetery, the whole medical faculty of the city serving as honorary pallbearers. Dr. Beckwith was graduated from the Medical School of the University of Virginia in 1899.

---

DR. HUNTER MCGUIRE BRUMBACK, 53, died July 27th at his home at Boyce, Clark county, Virginia. He was a son of Dr. Isaac M. Brumback and a graduate of the University College of Medicine, class of 1900.

---

DR. HENRY J. LANGSTON, Danville, Va., has recently taken special work in obstetrics under Dr. Irving W. Potter, Buffalo, N. Y.

---

THE GOOD SAMARITAN HOSPITAL, Charlotte's hospital for colored people, announces to the profession the installation of a complete x-ray laboratory with Dr. J. Rush Shull as roentgenologist.

---

## REVIEW OF RECENT BOOKS

**SYPHILIS**, A Treatise on Etiology, Pathology, Symptomatology, Diagnosis, Prognosis, Prophylaxis, and Treatment, by Henry H. Hazen, A.M., M.D., Professor of Dermatology and Syphilology, Medical Department of Georgetown University; author of "Diseases of the Skin," "Cancer of the Skin," etc. Second edition, with 165 illustrations including 16 figures in colors. \$10.00. St. Louis, The C. V. Mosby Company, 1928.

This edition is well up to the high standard set by its predecessor. The subject matter is well arranged in orderly sequence, and the expression is clear. The illustrations are profuse and informative. An unusual grouping is that of "Affections of the Endocrine Glands" in one chapter. Under Diagnosis, the command is given, "be quick to suspect syphilis; be slow to diagnose syphilis." Then the wise comment "at the present time entirely too much stress is laid upon the Wassermann reaction." A description is given of this reaction which will make it understandable to many for the first time, and this understanding is essential if one is to appreciate the significance of laboratory reports. Prognosis is given very guardedly and is largely a series of quotations from authors of very diverse opinions. Under treatment are given directions for choosing between the various drugs and their many preparations, dosages, and the methods and frequency of administration. Judicious alternation is favored. Persistency is urged. An extended bibliography after each chapter will be pleasing to those who wish to go further into different phases as they go along.

**MODERN METHODS OF TREATMENT**, by Logan Clendening, M.D., Associate Professor of Medicine, Lecturer on Therapeutics, Medical Department of the University of Kansas. With chapters on special subjects by: H. C. Andersson, M.D.; J. B. Cowherd, M.D.; H. P. Kuhn, M.D.; Carl O. Rickter, M.G.; F. C. Neff, M.D.; E. H. Skinner, M.D.; and E. R. DeWeese, M.D. Second edition, \$10.00. St. Louis, The C. V. Mosby Company, 1928.

The excellent first edition has been revised and brought up to now insofar as possible, allowing for time to print. Recent additions to our therapeutic armamentarium appearing in the new edition are: liver diet, scarlet fever

antitoxin, parathyroid hormone, ovarian hormone, ephedrine sulphate, novasural and ammonium chloride in edema, and peptone in migraine. We heartily approve the author's sentiment: "I have tried to keep in mind the problems of the general practitioner and encourage him to use methods, and to adopt methods which he is likely to believe are effective only in the hands of what the world has unfortunately come to call *specialists*." The volume is admirably adapted for affording information in detail which will rescue many a puzzled and distressed doctor from many a quandary.

**A Handbook of CLINICAL GYNECOLOGY AND OBSTETRICS**, by Rae Thornton La Vake, A.B., M.D., F.A.C.S., Assistant Professor of Obstetrics and Gynecology, University of Minnesota. Illustrated. \$4.00. St. Louis, The C. V. Mosby Company, 1928.

The writer begins, in a spirit which must commend itself, by saying his book is designed for the "student, *graduate* or *undergraduate* [italics ours] who is organizing his knowledge . . . . .". Probably more in gynecology and obstetrics than in any other branch does the general run of text-book lead one into mazes. The introductory chapter, oddly, is on diagnosis, and even more oddly, on "Diagnosis by Exclusion." Interest is piqued at once, "Every woman who comes for gynecologic examination . . . there you are; the problem introduced in the book, just as it is introduced to you in your office by the "woman who comes"; and this is but a fair sample of the uniquely excellent plan. Gentle advice is given that the examiner should never fail in consideration for the patient, and that the modesty of the patient can be spared without detriment to the examination. Illustrative cases are cited. Cuts are made use of when needed. It is astonishing how much sound instruction has been put in so small a book; the explanation lies in the author's knowledge of his subject, his experience as a teacher, his ability to place himself mentally in the place of the one being taught, and his aversion for the redundant.

The **ULTRA-VIOLET RAYS**, Their Action on Internal and Nervous Diseases and Use in Preventing Loss of Color and Falling of the Hair, by Arnold Lorand, M.D. (Vienna), Physician at the Carlsbad Springs, Czecho-Slovakia. Author of "Old Age Deferred", "Health Through Rational Diet", etc. \$2.50. Philadelphia, F. A. Davis Company, Publishers, 1928.

A review is given of the value placed on light by the physicians and peoples of antiquity, and to this are added recent contributions to the literature of light therapy. It is recommended that the quartz and Sollux lamps be used in conjunction for the best effects. It is said that the endocrines are activated, that high blood pressure is lowered, and obesity reduced or abolished by ultraviolet rays. Neurasthenia, Grave's disease, impotency and old age symptoms have been favorably influenced.

Parts II and III treat of the use of the rays to prevent falling or graying of the hair.

The reviewer does not undertake to pass on the claims which would appear to be colored by enthusiasm, to say the very least.

**OPERATIVE SURGERY**, by J. Shelton Horsley, M.D., F.A.C.S., Attending Surgeon, St. Elizabeth's Hospital, Richmond, Va. With 756 original illustrations, illustrated by Miss Helen Lorraine. Third Edition. \$15.00. St. Louis, The C. V. Mosby Company, 1928.

As in previous editions *principles* are emphasized as of most importance. This does not mean that *practice* is neglected, for by clear text and excellent illustration operative procedures are clearly set forth. Unusually instructive is the chapter on the causes of cicatricial contraction, a subject on which there is need of more general information as evidenced by the many deformities from this cause. The lesser operations, as finger amputations and spinal puncture, are described with the same care as are the greater. Many new operations are minutely described and accounts given of experimental work of J. S. Horsley, jr., Mann and Williamson and others. The book represents the pains-taking labor of a practical surgeon who is also a diligent worker in the fields of pathological anatomy and physiology.

**GYNECOLOGY FOR NURSES**, by Harry Sturges Crossen, M.D., F.A.C.S., Professor of Clinical

Gynecology, Washington University Medical School. With 365 engravings, including one color plate, \$2.75. St. Louis, The C. V. Mosby Company, 1927.

Part I presents briefly the salient features of the anatomy and physiology of the organs and parts involved, and of methods of examination and treatment.

Part II goes into details of gynecologic nursing, including preparation for and assistance in operations.

The profusion of illustrations—365 in a book of 280 pages—makes for instruction with the greatest facility.

**STRABISMUS**, Its Etiology and Treatment, by Oscar Wilkinson, A.M., M.D., D.Sc., Surgeon in Chief of Washington Eye and Ear Hospital, Washington, D. C. Illustrated. \$10.00. St. Louis, The C. V. Mosby Company, 1927.

The frequent neglect of the cross-eyed child is the reason for this book. Its object is to impress the importance of early treatment. Although strabismus has been studied since the earliest recorded history there is still lack of agreement as to its cause. The anatomy, physiology and physics are given in great detail.

Paralytic strabismus has a whole chapter, which is elaborately illustrated and amplified with charts.

There are two chapters on treatment, one on *non-operative* and one on *operative* treatment. The former is especially full as it is the author's belief that much more can be accomplished without operation than is being accomplished now.

**BLOOD AND URINE CHEMISTRY**, by R. B. H. Gradwohl, M.D., Director of The Gradwohl Laboratories, St. Louis, Mo., and Ida E. Gradwohl, A.B., Instructor in The Gradwohl School of Laboratory Technic, St. Louis, Mo. With 117 illustrations and 4 color plates. St. Louis, The C. V. Mosby Company, 1928. \$10.00.

Intended as a text-book for laboratory workers and doctors, this volume sets forth methods with all the clarity which the authors have found essential in order that misunderstanding should be avoided.

Gratification is expressed that the profession has learned that blood chemical methods

(Page xxiv)

**OFFICERS**

**Medical Society of the State of  
North Carolina  
1928-1929**

*President*

Dr. Thurman D. Kitchin.....Wake Forest

*First Vice-President*

\*Dr. W. L. Dunn.....Asheville

*Second Vice-President*

Dr. D. T. Tayloe, jr.....Washington

*Third Vice-President*

Dr. W. D. James.....Hamlet

*Secretary-Treasurer*

Dr. L. B. McBrayer.....Southern Pines

**OFFICERS**

**Tri-State Medical Association of  
the Carolinas and Virginia  
1928-1929**

*President*—Dr. J. K. Hall.....Richmond, Va.

*Vice-Presidents:*

Dr. Oren Moore.....Charlotte, N. C.

Dr. R. Finley Gayle, jr.....Richmond, Va.

Dr. DeWitt Kluttz.....Greenville, S. C.

*Secretary-Treasurer:*

Dr. J. M. Northington.....Charlotte, N. C.

**COUNCILORS***First District*

Dr. H. D. Walker.....Elizabeth City

*Second District*

Dr. Grady G. Dixon.....Ayden

*Third District*

Dr. J. B. Cranmer.....Wilmington

*Fourth District*

Dr. W. H. Smith.....Goldsboro

*Fifth District*

Dr. E. A. Livingston.....Gibson

*Sixth District*

Dr. V. M. Hicks.....Raleigh

*Seventh District*

Dr. T. C. Bost.....Charlotte

*Eighth District*

Dr. R. B. Davis.....Greensboro

*Ninth District*

Dr. M. R. Adams.....Statesville

*Tenth District*

Dr. J. F. Abel.....Waynesville

*Chairman Committee on Arrangements*

Dr. C. A. Julian.....Greensboro

\*Deceased

**EXECUTIVE COUNCIL****ONE YEAR TERM**

Dr. Warren T. Vaughan.....Richmond, Va.

Dr. M. H. Wyman.....Columbia, S. C.

Dr. L. G. Beall.....Black Mountain, N. C.

**TWO YEAR TERM**

Dr. E. S. Boice.....Rocky Mount, N. C.

Dr. F. B. Johnson.....Charleston, S. C.

Dr. R. L. Payne.....Norfolk, Va.

**THREE YEAR TERM**

Dr. J. Bolling Jones.....Petersburg, Va.

Dr. D. A. Garrison.....Gastonia, N. C.

Dr. W. R. Wallace.....Chester, S. C.



# SOUTHERN MEDICINE and SURGERY

VOL. XC      CHARLOTTE, N. C., SEPTEMBER, 1928      NO. 9

## ADENOMA OF THE THYROID GLAND

THOS. D. SPARROW, M.D., Charlotte

At the present time there is probably no subject in medicine that is exciting more interest, and about which there is greater confusion, than the enlargements of the thyroid gland called goiter. This awakened interest has been brought about largely by the monumental works of Wilson<sup>1</sup> and Plummer,<sup>2</sup> in the pathology and symptomatology, the studies in the iodine content of the thyroid gland by Kendall<sup>3</sup> and the practical application of iodine therapy by Marine and Kimball.<sup>4</sup> More physicians are interested in goiter than ever before and, as a result, the literature is so full of conflicting theories, statistical reports and methods of treatment, that the general reader finds himself lost, not knowing whom to follow or whither to look for guidance.

The present study was undertaken with no idea of producing anything new, but it is an effort to correlate in my own mind some of the salient facts in regard to adenoma of the thyroid and to glean from the study some idea as to the relationship between the clinical and laboratory findings.

In the consideration of the pathology of any organ, where a possible developmental defect or fetal rest may be responsible, it is always important to study its embryology. This is particularly true of the thyroid gland as a whole and even more so when we are considering adenoma of that gland.

At about the level of the second visceral arch, in the 3-4 mm. embryo, there appears an epithelial outgrowth from the pharyngeal wall, close to the base of the tongue. This evagination soon becomes a pyriform mass, losing, as a rule, its cavity and its attachment to the pharyngeal wall. The mass rapidly becomes bilobed and passes down to the level of the thyroid. The position of the early outgrowth remains as the foramen caecum just at the apex of the V row of the circumvallate papillae of the tongue. If the early evagination persist sentirely it forms the thy-

roglossal duct, if only in part, the result is a thyroglossal cyst. There are other epithelial outgrowths appearing on each side of the ventral wall of the fourth pharyngeal furrow which some hold unite with the median anlage to form the lateral lobes of the thyroid. Piersol<sup>5</sup> did not believe this to be true. At this stage the gland is composed of cylindrical, epithelial cords from which grow out lateral branches. As time goes on there is a fusion of the cords into a network. In the third fetal month this network divides into masses corresponding to the follicles, ranged to form the young acini. In the seventh fetal month solid tissue, cords, tubules and interstitial cells may be identified in the thyroid. (Fig. 1.)

The normal thyroid gland has as its function the regulation, at least to a large extent, of the body metabolism, or as McCarrison has said, "The thyroid gland is to the human body what the draft is to the fire; nay more, its iodine, by its chemical inter-action with certain unknown constituents of the cells, is the match which kindles it." Any deviation from the normal secretion of the gland must, therefore, influence the metabolic activities, whether it be too much of a normal secretion, or too little, or whether it is some chemical alteration of the normal secretion. If examined microscopically the outstanding characteristics are: lobules separated by fibrous septa, a glandular parenchyma composed of closed acini filled with colloid, the epithelial lining of which are low cuboidal cells almost completely filled with their nuclei. (Fig.. 2.)

There is a tendency, at the present time, to disregard the manifold, complicated and misleading theories and classifications of each type of goiter and to simplify matters by conceiving of the different manifestations as stages or periods in one process.

If, for some reason, the thyroid gland is

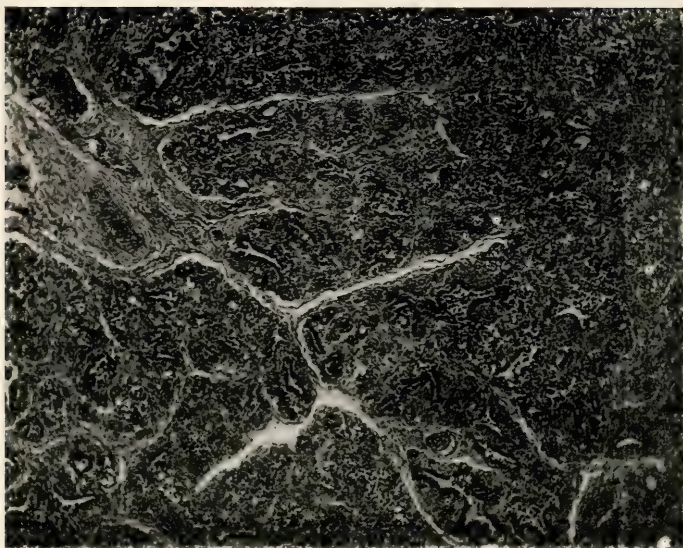


Fig. 1.—Thyroid of five-day-old child showing many characteristics of the fetal thyroid—lobulation, undifferentiated masses of cells, tendency to cord formation and young, newly formed acini.

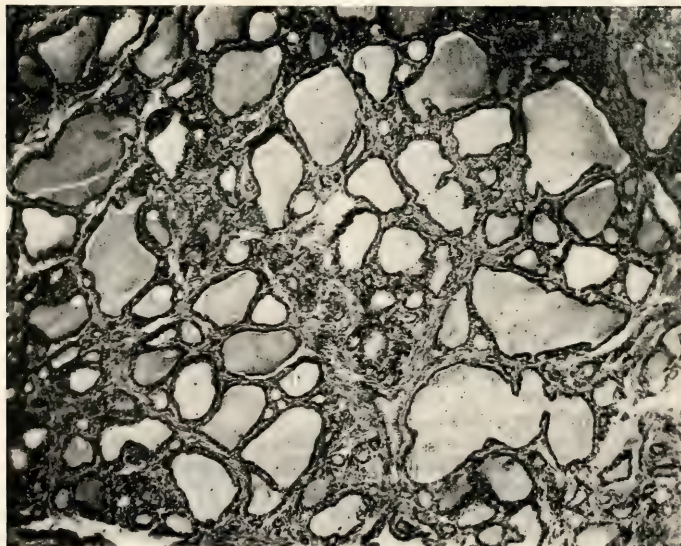


Fig. 2.—Normal thyroid gland.

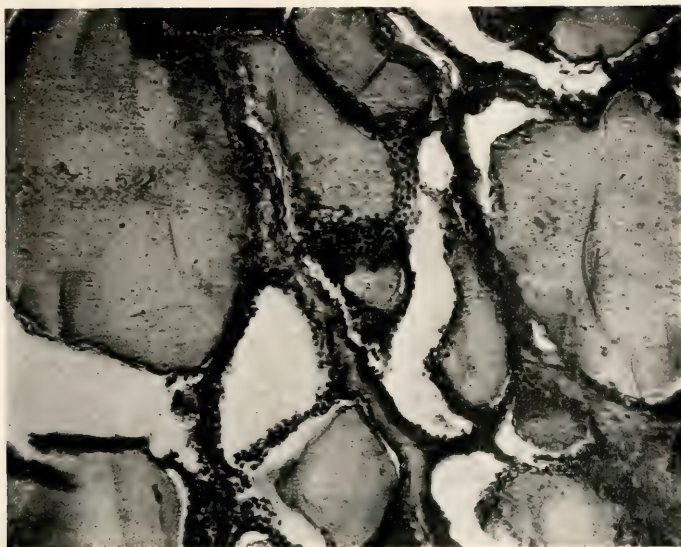


Fig. 3.—Exophthalmic goiter treated with iodine preoperatively. This patient had a positive Von Graeffe, a + 26 metabolism, marked tremor, moderate enlargement of all three lobes, fast heart and palpitation. The predominating feature of this slide is colloid and practically none of the findings encountered in exophthalmic goiter are present.

stimulated, chemically, by bacteria, or nervously, there results a hypertrophy and hyperplasia. That iodine is vitally concerned in this process is too well known to need discussion. It may be there is an insufficiency of the iodine supply or an excessive demand for thyroxin from a heightened metabolic activity.<sup>6</sup> The cells lining the acini become high cuboidal or low columnar in type, the nuclei no longer fill the cells, the colloid material is poorly staining and the vessels are congested with blood. If the stimulation is continued for a sufficient time, there is an epithelial hyperplasia and definite collections of lymphoid cells in the stroma. The gland is in a state of "feverish activity," the metabolic readings are increased, and the picture is that of Grave's disease or exophthalmic goiter.

Should this stimulation continue for only a short time, there would result an attempt on the part of the gland to retrogress, an inactive period. Colloid, rich in iodine, is poured out into the lumen of the acini, the lining epithelium becomes flattened, the interstitial tissue is reduced to a minimum and no

parenchymatous cells are found. This resting stage is a picture of, so-called, colloid goiter. These findings can be produced in an exophthalmic goiter which has received iodine treatment pre-operatively. (Fig. 3.) The question is raised as to whether the secretion of Grave's disease is a true hyperthyroidism or whether it is an altered secretion. It is not our province to discuss this at this time. This is important, however, that, if this theory is true, then in exophthalmic goiter and colloid goiter it is the adult cell which is being stimulated and becoming hyperplastic, in contrast to the fetal and colloid adenomata in which the young and fetal cells are involved.

If this theory is carried to its logical conclusion it is necessary to consider a stimulus acting on the embryonic rests of Wolffler or interstitial cells of the thyroid, resulting in a hypertrophy and hyperplasia of these encapsulated cells. If this continues sufficiently an adenoma results; if it ceases there comes a resting or colloid stage, an attempt at retrogression, and a colloid adenoma. I do not know whether or not this is true. I do know



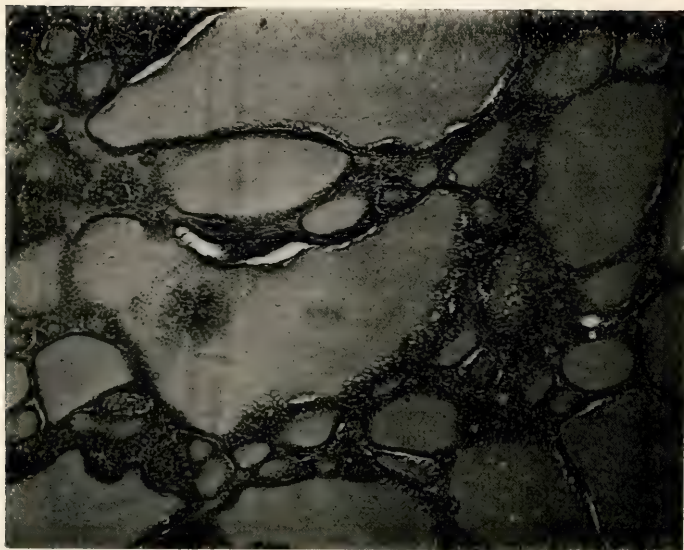


Fig. 4.—Section from a toxic adenoma. Colloid predominates. Note high cuboidal cells lining the acini.

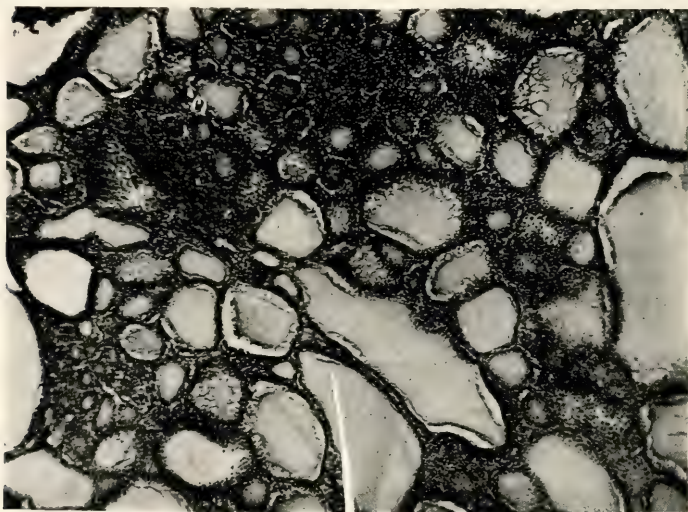


Fig. 5.—Toxic fetal adenoma taken from the same section as Figure 4. Showing colloid collections and areas of fetal adenoma.

that many slides show large colloidal collections resembling a true colloid adenoma, closely bordering on and included in the cap-

sule with areas that are true pictures of the fetal adenoma. (Figs. 4 and 5.)

Parson<sup>7</sup> concludes that the natural history



of the cells of adenoma, whether circumscribed or diffuse, is the same as for the cells of the gland itself. Falk<sup>8</sup> observes that a very small percentage of the adenoma are pure colloid. Crile<sup>9</sup> classifies all adenomas as fetal. Crotti<sup>10</sup> regards them as congenital in origin. Graham<sup>11</sup> holds that the fetal type has its origin in the so-called Wolfer's rests. Boyd<sup>6</sup> states that "it is probable then that both of these forms (adenoma, fetal and colloid) arise from the fetal inter-acini parenchyma." Graham<sup>12</sup> is unable to recognize a single symptom, sign or anatomic or histological alteration that is pathognomonic for exophthalmic goiter as opposed to toxic adenoma and he regards exophthalmic goiter and toxic adenoma as clinical variations of a single morbid state.

Adenoma may be classified as: (1) fetal, (2) colloid, (3) diffuse adenomatosis. It may be toxic or non-toxic. Clinically the fetal and colloid types present no pathognomonic symptoms. The patients present themselves complaining of one or more nodular swellings in the thyroid, symptoms of pressure or the symptoms of mild or severe toxemia. In the diffuse adenomatosis of Goetsch<sup>13</sup> the clinical manifestations are: "A syndrome characteristic of possible hyperthyroidism, incipient tuberculosis, neuro-circulatory asthenia and allied conditions. They fail to show positive eye signs, or even clinical findings in the thyroid gland. They are found to give a positive reaction to the epinephrin test but in many instances they fail to show increased basal metabolism. In this type of case a rather extensive bilateral, partial resection of the thyroid gland is followed by a very definite, and often striking, improvement." Microscopically there is a definite increase in the interstitial and lymphoid tissue and hyperplasia of the acinar epithelium.

The differentiation of the toxic adenoma from Grave's disease may present some difficulties. Usually the palpable nodules of the adenoma will distinguish the two but if these nodules are deep in the thyroid or intrathoracic in position, or if the thyroid of Grave's disease is not smooth and uniform in outline, some difficulty may be encountered. Broadly speaking, the symptoms of thyrotoxicosis in the two conditions is one of degree in the severe cases. There are, however, certain features of each that may aid

in the diagnosis. The patient with adenoma usually gives a history of having noticed a slowly enlarging nodule in the thyroid for years in contrast to the suddenness of onset in the exophthalmic type. Classically the adenoma seldom becomes toxic before thirty years of age but practically many exceptions to this rule can be demonstrated and the lateness in onset in toxic adenoma has probably been over stressed. The blood pressure is more likely to be high in the toxic adenoma and while the basal metabolism may be above normal it seldom rises as high as in Grave's disease. In the adenoma the eye symptoms and tremor may be present but not as prominent as in Grave's disease. In other words, as Boyd<sup>6</sup> puts it, "the brunt of the attack falls upon the cardio-vascular system in the toxic adenoma, whereas in Grave's disease it is the nervous system which is the principal sufferer." The chief distinguishing feature of adenomata is their marked encapsulation. Microscopically the picture is variable. (Fig. 6.) They may be<sup>7</sup> "composed of solid embryonic cells, of cords or tubules, others made up of acini, apparently of adult normal gland architecture, some like colloid goiter and others in which degeneration, hemorrhage, cyst formation or calcification have occurred." As summed up by Falk<sup>8</sup>: "One may find within adenoma practically any pathological picture that occurs in the thyroid gland, depending on the cell proliferation and the type of degeneration which the adenoma has undergone." In the fetal type there are numerous acini, with or without colloid and cords of what appears to be new forming acini. The cells lining the acini are cuboidal in type. The colloid adenoma, except for its encapsulation, resembles closely the colloid goiter.

That malignant degeneration occurs with greatest frequency in adenoma is generally admitted. Malignancy is fairly infrequent in the thyroid gland, but it is more common than was formerly thought. Wilson<sup>14</sup> found its incidence as follows: in Berne one case of malignant tumor of the thyroid was found in every 93 post-mortems; in Prague, one in every 452; in San Francisco, one in every 211; in the Mayo Clinic, one in every 292. Graham<sup>15</sup> states that at least 90 per cent of malignant tumors, arising from the thyroid epithelium, have their origin in pre-existing adenomata. Balfour<sup>16</sup> says that the treatment of cancer of the thyroid should be that of the

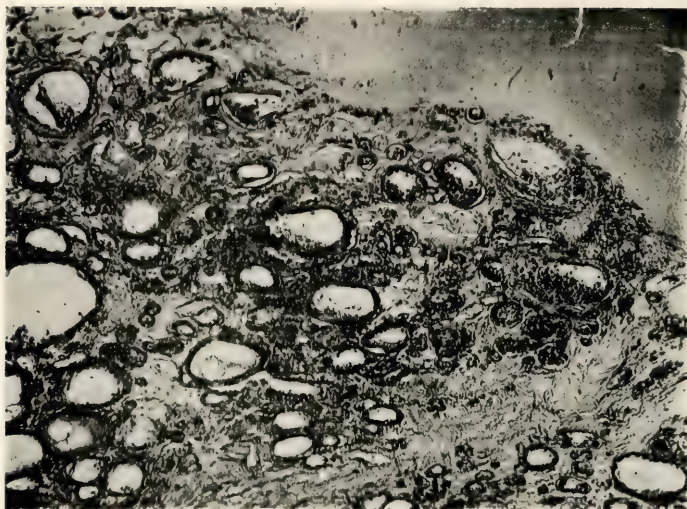


Fig. 6.—Fetal adenoma. Showing numerous acini in loose stroma. Note the amount of fibrous tissue.

treatment of precancerous lesions elsewhere; that is, prompt surgical treatment of the precancerous condition in the thyroid, the adenoma. Pool<sup>17</sup> warns that while we must accept the evidence that cancers of the thyroid are preceded by and develop in adenoma in a large proportion of cases, there is no convincing evidence as to the proportion of adenomata which become malignant. Graham<sup>18</sup> points out the difficulties of definitely saying when an adenoma is malignant and holds that the invasion of the blood vessel walls by the growth is the most important microscopic finding.

That iodine may change a simple into a toxic adenoma is a well known fact. However, in cases with adenomata already toxic, who have had no preliminary treatment, many men hold that iodine should be administered pre-operatively, just as in exophthalmic goiter. Mosser<sup>19</sup> finds that the temporary beneficial results obtained in toxic adenoma (from the administration of iodine preparations) with few exceptions are in every way, except degree, analogous with those obtained in exophthalmic goiter. Graham's<sup>12</sup> findings support this view and he believes the reason that iodine, as a prelimi-

nary treatment in toxic adenoma, has fallen into disrepute, is due to the fact that when seen by the surgeon these cases have passed over the quiescent stage from the iodine therapy and have reached the period of exaggerated symptoms. In untreated cases he finds that exophthalmic goiter and toxic adenoma respond equally well to iodine.

In our experience toxic adenomata do better without iodine and if administered at all we agree with DeCoursey<sup>20</sup> "that iodine in toxic adenoma, should be confined to the post-operative treatment."

Finally, the treatment of adenoma of the thyroid gland, toxic or non-toxic, is surgical removal. Enucleation of a single adenoma should be done but in all cases the apparently uninvolved lobe should be exposed and carefully examined for small growths which are often overlooked at operation. In cases of multiple or diffuse adenoma a subtotal thyroidectomy should be performed.

To summarize, the present study would lead to the conclusions:

1. That adenomata have their origin in the cells of the interstitial parenchyma and are probably fetal rests.

2. That fetal adenomata and colloid ade-

nomata are stages in the same process, comparable to exophthalmic goiter and colloid goiter.

3. That adenoma represents a response of fetal or interstitial cells to a given stimulus while exophthalmic or colloid goiter represent the response of adult cells to such a stimulus and while these fetal and adult cells react in a similar manner they represent two different processes rather than being stages in the same process.

4. That because of pressure symptoms, the danger of toxicity, and the possibility of malignant degeneration, all adenomata should be surgically removed.

5. That iodine, if administered at all in the pre-operative treatment of toxic adenoma, should be given only under the immediate supervision of the surgeon.

210 Professional Building.

#### BIBLIOGRAPHY

1. Wilson, Louis B.: Pathology of the Thyroid Gland in Exophthalmic Goiter. *Am. J. M. Sc.*, 146, 781. 1913.
2. Plummer: Functions of the Thyroid, Normal and Abnormal. *Transactions of the Assoc. of Amer. Physicians*. XXXI 128, 1916; Plummer, H. S., et al.: Symposium on the Relation of the Thyroid Gland to Basal Metabolism. *J. A. M. A.*, 77, 243. 1921.
3. Kendall, Edward C.: Studies of the Acute Constituent in Crystalline Form of the Thyroid. *Transactions of the Assoc. of American Physicians*. XXXI 134. 1916.
4. Marine, David, and Kimbal, O. P.: The Prevention of Simple Goiter. *Arch. Int. Med.*, 25, 661. 1920.
5. Piersol, Geo. A.: *Human Anatomy*, Fifth Edition. J. B. Lippincott.
6. Boyd, William: *Surgical Pathology*. W. B. Saunders Co. 1925.
7. Parsons, Wm. B., Jr.: Adenoma of the Thyroid. *Annals of Surgery*, Vol. LXXXV, 107. Jan., 1927.
8. Falk, Henry C.: The Relationship Between the Pathologic and Clinical Aspects of the Diseases of the Thyroid Gland. *Archives of Surgery* 11:74. 1925.
9. Crile: Quoted by Falk.
10. Crotti: Quoted by Falk.
11. Graham, Allen: The Thyroid Gland. *Clinics of Geo. W. Crile and Associates*. W. B. Saunders & Co., 1922.
12. Graham, Allen: Exophthalmic Goiter and Toxic Adenoma. *J. A. M. A.*, 87, 628. 1926.
13. Goetsch, Emil: Studies on the Disorders of the Thyroid Gland. Hypersensitiveness Test With Especial Reference to "Diffuse Adenomatosis" of the Thyroid Gland. *Endocrinology*, 4, 389. 1920.
14. Wilson, Louis B.: Malignant Tumors of the Thyroid. *Annals of Surgery*, 74, 129. 1921.
15. Graham, Allen: Malignant Epithelial Tumors of the Thyroid with Especial Reference to the Invasion of the Blood Vessels. *Surg., Gyn. and Ob.*, 39, 781. 1924.
16. Balfour, D. C.: Cancer of the Thyroid Gland. *Medical Record*, 94, 846. 1918.
17. Pool, Eugene H.: Malignant Growths of the Thyroid. *Annals of Surgery*. Vol. LXXXV, Page 120, Jan., 1927.
18. Graham, Allen: Malignant Tumors of the Thyroid. *Annals of Surgery*, 82, 30. 1925.
19. Mosser, W. B.: The Thyroid Gland. *Progressive Medicine*, 1927.
20. Decoursey, J. L.: The Prevention of Post-operative Thyrotoxicosis by Post-operative Iodination. *Annals of Surgery*, 83, 768. 1926.





## HOW THE GENERAL PRACTITIONER CAN DO BETTER OBSTETRICS\*

PAUL CRUMPLER, M.D., Clinton

In the beginning, I wish to say that I owe an apology for the title of this paper. I do not presume to have any more knowledge about obstetrics than the average general practitioner. I bring you nothing new in method or discovery. In fact, the average general practitioner already knows how to do good obstetrics. He is well trained, and, if he has practiced long, he has had a vast experience and has encountered almost every obstetric emergency. Therefore, whatever faults have been justly or unjustly laid at his door do not arise from lack of knowledge, but from lack of proper application of the knowledge which he has. The purpose of this paper is to emphasize some of the means by which this knowledge can be put into practice, and raise the standard of obstetrics to a higher plane.

More than two-thirds of the obstetric practice in North Carolina is being done by the general practitioner. Therefore, whatever improvement is made in method or technique must come through the general practitioner.

A glance at our maternal statistics will show that improvement is needed. In North Carolina in 1926, 718 women died in the puerperal state, a death ratio of 8.7 per 1,000 live births. This is an increase of nearly one per 1,000 in the last four years. Fully half of these deaths should have been prevented. This is a grave charge to be made against the medical profession of North Carolina, but the facts will substantiate it. Not included in these figures is an immense amount of invalidism resulting from poor obstetrics. Our hospitals are filled today with these women, and our surgeons are kept busy repairing the havoc produced at child birth. The injuries thus sustained are frequent and far reaching, and who can measure the suffering and deaths which are thereby produced?

Now let us examine for a moment the maternal death rate in some of our sister states. There are 33 states in the registration area.

The maternal death rate in this combined area is 6.6 per 1,000 live births; 2.1 lower than North Carolina alone. Only four states in this area, Florida, Wyoming, South Carolina and Mississippi, have a higher death rate than North Carolina. In other words, twenty-eight of these states have a lower maternal death rate than our own state. Florida had the highest, 12.1 per 1,000, while Utah, for several years, has enjoyed the distinction of having the lowest. New York, with its conglomerate population of foreigners, and its sections of poverty, filth and squalor, has a death rate of 5.9, or about one-third lower than our own. Thus, it would seem that our parturient women would stand twice as good a chance of saving their lives in Utah, and a third better chance in New York State.

In 1926, there were 3,698 babies born dead in North Carolina. There is, of course, no means of tabulating the hundreds of babies who are crippled each year from intracranial injury at birth. The orthopedic institutions are filled with them. The institutions for the feeble-minded are overflowing with them, and each locality has its quota. The economic loss from these unfortunates is tremendous, and the untold unhappiness to the individual child and its family is immeasurable.

Now, where is the cause for this state of affairs? It has been the custom heretofore to virtuously pass the buck to the midwife, and close our eyes to our own faults. This can no longer be done. The midwife is being supervised by our health departments, and fortunately, her breed is decreasing. The midwife no longer makes vaginal examinations. Yet, 129 women died in North Carolina last year from septicemia following child birth. These deaths cannot be laid at her door. I hold no brief for the midwife. In fact, I claim that every woman, no matter how poor, is entitled to the services of a doctor during pregnancy and labor. I claim that she is far safer in the hands of the poorest doctor than in the hands of the best midwife. But, if we are to raise obstetrics to a higher plane, we must face the facts squarely,

\*Presented to the Medical Society of the State of North Carolina, meeting at Pinehurst, April 30th, May 1st, 2nd and 3rd, 1928.



and place the blame where it is due. Frankly, I cannot lay any of my own obstetric fatalities or technical blunders to the midwife, nor have I seen many such instances in the practice of my colleagues.

Let us analyze for a moment the situation and see what are some of the common causes of obstetric faults. What is the reason for this high death rate? Why so many stillbirths and these other uncounted living dead who are crippled mentally and physically from birth injuries? Where lies the reason for this host of half invalids with their aches and complaints from their displacements, scars and lacerations? Why is obstetrics in North Carolina on a low plane?

Being a general practitioner myself, and having had the experience of the average general practitioner, I believe I know the reasons which, to a great extent, cause this undesirable condition. Some general practitioners dislike obstetrics, often doing the work merely to hold the family practice. The sooner the job is done, the quicker a disagreeable task is over. Such doctors seldom have that comforting feeling which comes from a task well and faithfully done.

Others of us do not dislike obstetrics, but the stress of work drives us. The office is overflowing; the pneumonia patient is to be visited; the sick babies are to be seen. The families are expecting us. And then the obstetric call comes in. And, right here, gentlemen is where fully 50 per cent of our obstetric faults originate. Under these circumstances, it takes a man of patience and courage not to succumb to the urge of haste, and hurried obstetrics is almost sure to be poor obstetrics. Haste is the greatest single reason for that endless stream of surgical patients. It is a factor in that large number of stillbirths each year, and those uncounted infant derelicts who are made so by birth injury.

Hurried obstetrics is frequently deplored and often condemned, but a great many of us are sometimes guilty of practicing it. In our haste we are not apt to be very aseptic, neither are we apt to be accurate in our diagnosis and technique. One hundred and seven mothers died in North Carolina last year from the accidents of labor. Included in this is rupture of the uterus. I have seen a ruptured uterus follow the administration of four minims of pituitrin. Pituitrin is one

of the handiest accessories of haste. It is a most dangerous drug, and we frequently caution each other about its use, yet most of us use it. I have often wondered if our death rate would have been higher if pituitrin had never been discovered. I have also often wondered whether it is administered more frequently for the benefit of the patient or for the benefit of the doctor. It is sometimes given when forceps should be used. It is often given when nothing should be used. Its convenience and ease of administration and its rapid action makes of it a dangerous accessory of hurried obstetrics.

It is a regrettable fact, but nevertheless true, that there are doctors among us who make it almost a routine to do manual dilatation of the cervix in order to shorten the time of labor. Such doctors almost invariably use the ungloved hand. Their patients in a few years find their way to the gynecologist and the surgeon, or perhaps neglected, their infected, torn and mangled cervixes make fallow ground for cancer.

Then, how are we to remedy our obstetric faults? How are we to do better obstetrics? Since the general practitioner does the vast majority of obstetrics, the remedy must obviously come through him. We must first cultivate an obstetric conscience, and get acquainted with the golden rule.

Obstetrics is a most arduous practice and is frequently poorly compensated; but, when we accept an obstetric case, we obligate ourselves morally and professionally to give freely of our time, patience and skill, and render the best service of which we are capable. The doctor who does not have the time or inclination for this would render a far greater service by refusing all his obstetric calls. The parturient woman, be she rich or poor, is entitled to the best medical supervision. She is the mother of the race, and her condition, though ages old, is always new and should receive our most careful, painstaking and patient effort, both for herself and her expected offspring who is to be our citizen of the future.

We will have no better obstetricians and no lowering of the mortality rate until the general practitioner realizes that it is a major surgical condition requiring more prolonged preparation for the ordeal, an equal aseptic technique and frequently as much operative skill.

The three things most essential to better obstetrics are prenatal care, better technique and better equipment.

#### PRENATAL CARE

If we are to lower our maternal death rate, we must have better prenatal care. In 1926, 311 women died in North Carolina from toxemia of pregnancy and convulsions—almost half of our total number of maternal deaths. Nearly all of these deaths could have been prevented with proper prenatal care.

The better class of people are waking up to the importance of this, and the doctor who is lax in this, and who does not insist upon blood pressure readings and frequent urinalyses will, in the near future, find himself without the better class of obstetric patients. Every one of these 311 women who died with eclampsia gave ample warning, either through the kidneys or blood pressure, or both.

Every patient should be seen as early as possible in pregnancy, and a thorough examination made. She should be informed that the making of frequent urinalyses and frequent blood pressure reading is a strict duty between herself and her doctor, and that the safety of herself as well as the well being of her offspring may depend upon this. She should be advised that this is essential to the proper conduct of her case, that it gives us information through which we are often able to forestall serious trouble and perhaps even death.

The written word is often more effective than the spoken word, and every doctor who does obstetrics should have some small pamphlet printed giving all the instructions which he wishes his patient to have. Printed matter of this nature can be had from the various health departments free of charge, but are more effective when composed originally of the personal instructions you deem best for your patients to have. Give some thought to its preparation and put in it, in condensed form, the more important things the prospective mother should know. Have your name printed on them. It will create a closer relation between you and your patient, and you will be gratified and many times repaid for your trouble by the better co-operation of your patient and better preparation at times of delivery. Your patient will read and re-read your instructions and frequently pass them along to her neighbors. I have

seen my own little booklets, soiled and dog-eared from use, in the homes of strangers to me many miles from where they were presented.

The poorer and more illiterate class are the greatest problem in prenatal care, and much of our death rate comes from this class. This can best be reached by the health department and the county nurse. I see a great improvement in my own county in maternal and infant welfare since the establishment of this work. There is a great improvement in the quality of midwives and there are fewer of them. Consequently, more women are having the services of a doctor.

When the midwife is engaged in a case she reports this to the health department. She is taught to have a urinalysis for her patient every two weeks, either by a doctor, or, if the patient is indigent, by the county health department. She is taught how to recognize the more obvious threatened morbid conditions and to call a physician at once when such conditions arise. It seems to me that this is the only way to handle the midwife situation, and, furthermore, it extends a rudimentary prenatal care to a class of patients which it is hard for the general practitioner to reach.

The diet in pregnancy has long been a moot question. Personally, I think the normal healthy pregnant woman needs a full, well balanced diet, consisting of fruits, milk and vegetables. However, in all threatened morbid conditions important modification of diet is, of course, imperative.

A blood pressure above 150, or even a trace of albumin, means toxemia. When this occurs the diet should be properly restricted, and, for elimination, I have never found anything to surpass the old, but valuable, remedies, salts and cream of tartar. If the condition does not clear up immediately the patient should be put to bed until it does. Ordinarily, I have found that there are few diseases which respond to treatment quite so readily as these toxemias of pregnancy.

When labor begins it is a most comforting feeling to know that your patient is albumin free, that her blood pressure is within normal limits and that she is non-toxic. The summation devoutly to be wished is that all women in the puerperal state may have this prenatal care, and then our death rate will be reduced fully 50 per cent.

## TECHNIQUE

There are few doctors who, with a little study and careful introspection, cannot improve their obstetric technique. As was said at the outset, the general practitioner knows how to do good obstetrics, but the stress of work, the hurry and impatience of the times, and sometimes inertia and indifference, make him careless of asepsis and indifferent to diagnosis. A technique cannot be good unless ample provision is made for asepsis. Regardless of how insanitary the patient or the surroundings, no deviation should be made in the role of asepsis.

The practice of obstetrics frequently calls for the exercise of judgment as well as skill, and, if our judgment is not to be erroneous, we must have a correct diagnosis of the conditions present. A mal-presentation, to be properly corrected, must be thoroughly understood. Also, if we are to know when to intervene and supersede nature by the application of forceps or other method of delivery, we must have a thorough understanding of all the conditions involved, for the good of the mother as well as the child. Pelvic measurement is a most valuable part of obstetric technique, but it is infrequently used by the general practitioner.

No obstetric technique is complete without much attention to analgesia. The woman in labor is entitled to have her pains alleviated as far as safety will permit. It diminishes shock and exhaustion and robs motherhood of its terrors. The kind of anesthetic to use should depend upon the patient, the condition present and the probable length of labor. The most satisfactory method in my hands, especially with primipara, and where time is to be a factor, is the Gwathmey method of rectal instillation. It is simple, safe and effective and the analgesia lasts for three or four hours.

Good technique means asepsis, diagnosis, good judgment and analgesia.

## EQUIPMENT

The doctor's equipment is a pretty good criterion of the kind of obstetrician he is. It is sometimes a good policy to throw away the old dilapidated, insanitary obstetric bag and buy a new one. If the instruments are rusty, have them plated or buy new ones. If we are to expect our patients' co-operation, we must ourselves be amply prepared, and show our own belief in the germ theory.

For the physician's personal use, a gown and rubber gloves must be carried, and for his toilet, soap and a good scrub brush. Ample provision must be made in the hypodermic supplies to combat possible shock and hemorrhage. Every physician carries forceps and pituitrin, and with these should be included sterile obstetric sutures and a plentiful supply of sterile gauze. Whatever kind of anesthesia he prefers, a can of ether and an inhaler mask should always be included. The well filled obstetric bag lends confidence to the doctor, and in emergency, may mean the saving of life.

In the field of obstetrics, the general practitioner can and should be a specialist. The first requisite for this is to give to this branch of practice the time and effort which its importance demands.

We must be persistent and thorough in prenatal care and cultivate a technique which will include asepsis, diagnosis and good judgment, thereby reducing trauma to a minimum and preventing infection. We owe to our obstetric patients that they not only come through the ordeal with their lives, but that they also retain their health and that their offspring may come into the world without injury to mind or body.



## THE TREATMENT OF DIABETIC ACIDOSIS AND COMA\*

SAMUEL L. CROW, M.D., Asheville

Before going into the treatment of this condition I would like to take up briefly the nature and source of the acid bodies causing this intoxication. It is now generally believed that the ketone group composed of *B*-oxybutyric acid, aceto-acetic acid, and acetone are the chief acid bodies responsible for this condition, although in certain states of diabetic acidosis another organic acid is probably present. These ketone bodies are derived mainly from the amino-acids of fat, to some extent from protein, and not at all from carbohydrate. It must be remembered that these acids develop as rapidly from body fat and protein as from exogenous fat and protein, and that they result from the incomplete combustion of fatty acids.

The antiketogenic derivatives of the diet are carbohydrates. It has been found by experiment that one molecule of glucose causes the complete combustion of one molecule of fatty acid. During the combustion of fat, *B*-oxybutyric acid, diacetic acid and acetone are formed. If a sufficient amount of glucose is present, these acids are broken down into their end products, carbon dioxide and water. If there is an insufficient amount of glucose oxidized, namely, less than one molecule of glucose per molecule of fatty acid, only partial combustion of the acids takes place and ketosis results.

A moderate acidosis, according to Joslin, is represented by the excretion of 5-10 grams of *B*-oxybutyric acid, the elimination of 2 grams of ammonia, or a fall of carbonic acid in the alveolar air to 4 per cent, the equivalent of 29 mm. of mercury. Acidosis is considered severe whenever *B*-oxybutyric acid excretion reaches 30 grams, ammonia excretion 5 grams in 24 hours, or when the carbon dioxide tension of alveolar air is 3 per cent (22 mm. mercury), or the volume per cent of CO<sub>2</sub> in blood under 30.

As to the amount of *B*-oxybutyric acid and its allied bodies necessary to produce coma, it is impossible to state. Joslin states that it depends on the storage of protein, alkalis and water, as well as upon the ability

of the cardio-renal system to excrete the acids when formed. Children and adults under the age of forty withstand acidosis better than older patients. This is due to the fact that younger patients' kidneys excrete the acids more readily.

Most cases of uncomplicated diabetic acidosis and coma are preventable. Probably more patients are thrown into coma by a sudden change in diet, whereby carbohydrate is decreased and protein and fat simultaneously increased, than in any other way. Coma may result in a relatively short time when such a change is made. The glucose-fatty acid ratio in the diet should never be above 1.5<sup>1</sup> unless you know the patient. As long as this ratio is under 1.5 acidosis is not likely to appear, because complete combustion of fat will take place. Another not infrequent cause of coma is the sudden omission of insulin by a patient with the continuance of the diet which made it necessary for him to take insulin. To illustrate, we will take a patient who is on insulin, and is on a diet—say of C-70, P-50, F-130. His tolerance for carbohydrate would probably be around 40 or 50 grams. If he suddenly discontinued insulin, from any cause, he would still be taking 70 grams of carbohydrate but only 40 to 50 would be oxidized. This would be an insufficient amount to cause the complete combustion of fatty acids from the fat and proteins, and acidosis would occur.

In the presence of fever or infections one should always be on the alert for coma. The same may be said about elderly patients with damaged kidneys, cases of pregnancy, and in operative cases. Also when there is physical overstrain, depressing psychic conflicts, physical pain and the like.

The symptoms of diabetic coma are notoriously vague and coma frequently comes on insidiously. For this reason I think it unwise to attempt to teach patients the symptoms of diabetic acidosis and coma. Instead I think that they should be instructed that any time they develop infection or feel indisposed in any way whatever, they should carry out the rules Joslin teaches his patients, which are: (1) go to bed, (2) keep warm,

\*Presented to the Tenth District Medical Society at Hendersonville, N. C., April 4, 1928.



(3) get an attendant, (4) drink a glass of liquid each hour, (5) for nourishment depend on orange juice, water and oatmeal gruel, (6) send for your physician. His instructions will depend on the condition found.

On seeing a patient suspected of having diabetic coma, be sure that the coma is due to acidosis and not to some other trouble, as cerebral hemorrhage, uremia. At a hospital where I formerly worked I saw this mistake almost happen; fortunately the true condition was discovered before any damage occurred. The patient was admitted to the hospital in an unconscious state; respirations were deep and a sample of urine showed a good trace of sugar and a moderate ferric chloride reaction. A blood sample was immediately taken and 25 units of insulin injected into the vein through the same needle. While the blood was being examined further examination of the patient was made and a blood pressure of 180-100 was discovered. Non-protein nitrogen and creatinine determinations were ordered. The laboratory report came back showing normal blood sugar, and a high non-protein nitrogen and creatinine. Apparently the patient suffered from no hypoglycemia and in the course of a day regained consciousness.

Mild cases of acidosis will usually clear up with abstention from food or a diet containing only carbohydrates, with rest, warmth and relief of bowels. Severe acidosis with impending or actual coma, requires additional resources, as insulin, carbohydrate, alkali, water, etc.

A patient in impending or actual coma, requires prompt and constant medical supervision. It is a dreadful emergency and is in fact just as much a medical emergency as a perforated duodenal or gastric ulcer is a surgical one.

As soon as diabetic coma is diagnosed a blood sample should be taken immediately and then 20 units of insulin injected into the vein before withdrawing the needle. An additional 20 units should be given subcutaneously. The dosage of insulin should be heroic and no timidity of dosage should be permitted. However, the dosage should be guarded by blood-sugar determinations if possible; if not, one can depend upon single urinary specimens taken at frequent intervals. Further injections of insulin, after the initial dose, are given every one to three hours ac-

cording to clinical and laboratory indications. It is safe to say that 40 units will be required every 2 to 4 hours. As much as 300 units have been necessary in 24 hours in some cases.

The carbon dioxide combining power of the blood and the CO<sub>2</sub> tension of the alveolar air should be determined at intervals, if one has the necessary facilities at hand, as these are the most accurate means of determining the degree of acidosis. If it is not possible to get these, frequent single specimens of urine should be examined for diacetic acid and acetone.

No food should be given except carbohydrate, and as long as the blood-sugar is high this should be withheld. When the blood sugar falls to around 150 mg. or the Benedict test of the urine shows only a small amount of sugar, then glucose should be given to cover the insulin dosage so as to avoid hypoglycemia. From one to two grams of glucose per unit of insulin is given and may be given by mouth when possible, or given per rectum, or injected subcutaneously or intravenously. For subcutaneous injections 3 to 5 per cent solutions, and for intravenous injections 5 to 25 per cent solutions may be used. Orange juice is usually the food given by mouth.

If the urine becomes sugar free and blood-sugar normal and acidosis is still present, insulin injections of 10 to 20 units should be continued and the dosage covered with glucose.

Next to insulin the administration of liberal quantities of fluid is the best method we have of combating coma. It counteracts the desiccation of tissues, which frequently accompanies coma, and also enables the patient to void considerable quantities of urine, thereby eliminating a certain amount of acid. The liquid is given by mouth, if possible. A glass of fluid every hour in the form of water, tea, coffee, broths, etc., should be given. Along with fluids by mouth, salt solution by rectum and subcutaneously is also given. From 3 to 4 thousand c.c. of fluid a day should be sufficient.

The patient should be kept warm and external heat provided by wrapping in blankets with hot-water bags. Electric heaters are also used. The bowels should be relieved by enemas. The circulation must be supported as patients in diabetic coma usually have

low blood pressure. Caffeine and digitalis are given alternately every four hours. The subcutaneous injections of fluid help support the circulation, but intravenous injections may prove dangerous, in that they may cause death from cardiac failure. Stomach lavage is practiced, especially in children, as this removes any food that may be in the stomach, which might cause gaseous distension with consequent cardiac embarrassment.

There has been considerable controversy among the best men on diabetes concerning the administration of alkalis in this condition. Joslin opposes it, particularly large doses. On the other hand Allen urges their use. Bock and Fitz recommend from 15 to 35 grams of sodium bicarbonate in 24 hours as a routine; not because all patients require it, but because a certain percentage of their coma cases after being relieved of ketogenic acidosis, still have an acidosis which they believe is caused by an unidentified organic acid and that this acid is neutralized by alkalis. For this reason they give it routinely for fear if they don't give it the patient may die from acidosis, other than ketosis. I think Allen's method is the best in that he gives sufficient alkalis to keep the CO<sub>2</sub> combining power of the plasma as nearly normal as possible—55 to 75 volumes per cent. In this way the alkali deficit is restored and at the same time alkalosis is prevented. If the facilities are not at hand for doing this test, we should be guarded by the urine, which should be kept neutral or slightly alkaline. Sodium bicarbonate should be given by mouth if it does not upset the stomach. Otherwise it should be given by rectum or intravenously, if necessary. However, one should hesitate to give it intravenously unless other methods fail, because there is danger of cardiac failure. If given by this method it should be a 3 per cent solution of sodium bicarbonate in

salt solution.

The first three or four days following recovery from coma is a critical period; and coma may recur, unless the original diet is resumed slowly. A diet containing little or no fat is given and gradually increased to the required amount. Insulin should be continued and most patients will require from 30 to 50 units daily.

#### RESULTS AND CONCLUSIONS

To illustrate the brilliant results in the treatment of diabetic coma with insulin, I would like to mention that from January 1, 1912, to January 1, 1923, a period of 11 years, there were 69 cases of coma treated in the Massachusetts General Hospital. Of these 69, 68 died. In contrast, since the advent of insulin, Doctor Paullin, of Atlanta, has had approximately 40 private patients in varying degrees of coma, with only one death, and that patient had a complicating infection. In other words, before the advent of insulin, the great majority of patients died; since 1922 the great majority of uncomplicated coma patients recover, if the condition is detected early, treated promptly, and managed properly. However, brilliant as are the results with insulin, in the great majority of cases coma is preventable, and I agree with Joslin fully in his statement that the diabetic who dies of coma uncomplicated by infection dies needlessly.

514 Flat-iron Building.

#### REFERENCES

1. Paullin, J. E.: Insulin in the Treatment of Severe Cases of Diabetes Mellitus. *Journal Southern Medical Assn.*, Vol. XVII, No. 5, 153-159. March, 1924.
2. Joslin, E. P.: *Treatment of Diabetes Mellitus*, Third Edition, Philadelphia, Lee and Febiger, 303-316 and 551-565. 1923.
3. Woodyatt, R. T.: Acidosis. *Nelson's Loose Leaf Medicine*, New York, Vol. II, 12-17.
4. Allen, F. M.: *Treatment of Diabetes Mellitus*, Nelson's Loose Leaf Medicine, New York, Vol. II, 94-96.



## CERTAIN CLINICAL FEATURES OF JAUNDICE\*

JAS. W. GIBBON, M.D., Charlotte

By jaundice is meant the retention of bile pigment in the organism, or the accumulation of bilirubin in the blood stream; hence the term bilirubinemia. The role of the liver in the occurrence of jaundice has only recently been settled, but it is now well established that bile pigments are formed elsewhere than in the liver, probably in the reticulo-endothelial system, from the hemoglobin of the blood.<sup>1</sup> Such pigment is brought to the liver by the blood stream and is excreted by the liver cell.

When a patient with jaundice presents himself one is confronted with the necessity of a prompt diagnosis, since an early relief of the jaundice is essential in many instances to the protection of the liver cell. Among the classifications of jaundice, that of McNee<sup>2</sup> has the advantage of simplicity and comprehends all the information which is usually available in a given case. McNee's classification includes, first, obstructive jaundice, second, intra-hepatic (toxic or infective), and third, hemolytic jaundice. For a plan of study that of McVicar and Fitts<sup>3</sup> seems admirably suited to clearing up the diagnosis in cases of clinical jaundice. According to these authors, jaundice cases may be grouped as follows: (1) the reaction of the jaundiced serum to the Van den Bergh reagent; (2) the height and behavior of the serum pigment curve as determined by the Van den Bergh test or by the icterus index method; (3) the quantity of the bile reaching the intestines as determined by siphonage of the duodenal contents; and (4) the presence or absence of pain, and its character when present. The application of such a systematic method of study to jaundice cases routinely, particularly when extended over a short period of observation, will do a great deal toward clarifying the clinical picture, besides giving one a nicely co-ordinated idea of the phases of jaundice.

1. Hemolytic jaundice is due to an excessive destruction of red blood cells with an increased production of bile pigment which

accumulates in the blood stream beyond the limits of excretion by the liver cells. Owing to the fact that the pigment has never passed through the liver cell and has never been acted upon by the liver cell, this pigment reacts to the Van den Bergh reagent differently from the pigment which, because of obstruction of the ducts, has passed through the liver cell and has been excreted and reabsorbed. In hemolytic jaundice the Van den Bergh test shows a delayed positive reaction in contrast to the immediate positive reaction in obstructive jaundice. Here we have the first real clinical value of the Van den Bergh test which is the separation of two great groups of jaundice—hemolytic and obstructive. While the serum pigment of hemolytic jaundice is increased, the height of the icterous curve is not so great as is often seen in other forms of jaundice. There is bile in quantity to be gotten from the duodenal siphonage, and bile is always present in the stools. Pain is universally absent. Other important features of this type of jaundice is the markedly increased fragility of the red blood cells and splenomegaly. The spleen is the site of the pathological process and splenectomy cures the jaundice.

2. Intra-hepatic jaundice (so-called acute catarrhal jaundice, infectious jaundice, etc.) responds to the Van den Bergh test with an immediate positive reaction which places this type of jaundice in the obstructive jaundice group. Here the obstruction is located in the small bile radicals within the liver. The bile pigment is brought to the liver by the blood stream, excreted by the liver cell, obstructed in the small radicals, resorbed and accumulates in the blood stream. The pathologic lesion is within the liver. In this type of jaundice we find a very high serum pigment, and the icterus curve declines gradually. An icterus index of 300 is not unusual in this form of jaundice. Duodenal siphonage commonly demonstrates a free flow of bile into the intestine, if not at once, at least after two or three attempts. The type of jaundice is usually painless, although there may be an aching discomfort felt by the patient. This form of jaundice is the most common type, is seen as simple catarrhal jaundice, in hepa-

\*Presented to the Medical Society of the State of North Carolina, meeting at Pinehurst, April 30th, May 1st, 2nd and 3rd, 1928.



titis, in cirrhosis of the liver, in the forms of so-called toxic jaundice, biliary cirrhosis, cancer of liver, and the jaundice associated with acute infections. The treatment depends on the underlying factor.

3. Extra-hepatic jaundice is seen when there is a gross obstruction of the large bile duct, usually due to calculus or a carcinoma at the head of the pancreas. Bile pigment is resorbed and accumulates in the blood after passing through the liver. The serum pigment gives an immediate positive Van den Bergh. When the Van den Bergh test was first introduced it was hoped that it might serve as a test to differentiate the surgical obstructive jaundice (due to stone or tumor) and the non-surgical (due to obstruction within the liver); but the serum reaction in both intra-hepatic and extra-hepatic obstruction is quite the same.

Jaundice due to obstruction from within the duct is the result of a calculus. The pathological lesion, of course, is in the gall-bladder and ducts. In these cases the icterus index is never high, rarely over 60, and the curve is commonly irregular, varying from day to day, which is due to the fact that the stone is movable and acts rather like a ball valve, causing an intermittent obstruction to the duct. The jaundice, therefore, in cases of calculous obstruction, ebbs and flows with the intermittent drainage of bile around the stone. For similar reasons, duodenal contents may vary. At one time, bile is present and at another period it is absent. The most characteristic feature of this form of jaundice is association of severe pains or colics requiring morphine for relief. As a rule, jaundice from calculous obstruction is not difficult to recognize. As a result of the intermittent obstruction, there is produced a dilatation of the entire biliary tree, as pointed out by Counseller.<sup>4</sup> Associated with this dilatation, there is, however, a very marked leucocytic infiltration and fibrosis about the bile radicals within the liver due to infection. The gall-bladder itself is often fibrosed and shrunken. The common duct is usually tremendously dilated and thickened to accommodate the presence of the stone or stones. Unrelieved, the condition institutes the process of a permanent biliary cirrhosis. The treatment, of course, is obvious—removal of the calculus and drainage. Operative intervention should be practiced at the earliest

opportunity, since prolonged dilatation and infection will certainly impair the integrity of the liver cell and produce a chronic invalidism or even death.

Jaundice due to compression of the bile duct from without is nearly always due to a carcinoma at the head of the pancreas. The Van den Bergh test gives a prompt positive reaction. The serum pigment is very high and the icterus curve is either stationary or steadily rising. No bile is ever to be found in the duodenal contents. The stools are free from bile, and there is no pain. In this form of obstruction, "hydro-hepatosis" (a term suggested by Rous and MacMaster to describe the hepatic changes, and analogous to hydro-nephrosis) is extreme. The biliary tree in common with the gall-bladder is dilated enormously, its walls thin and sacculated, and the small branches definitely varicose. At operation the liver is large and tense, with rounded edges and bile stained. Infection and fibrosis, so prevalent in stone obstruction, are conspicuous by their absence, and biliary cirrhosis has never been observed. When infection occurs, it is commonly a terminal event. Carcinoma of the pancreas is of slow growth and long remains local, so that an early anastomosis of the gall-bladder to the stomach or duodenum will relieve the jaundice and add length and comfort to the patient's life.

Benign stricture of the common duct is usually the result of trauma during operations on the biliary tract. Jaundice following gall-bladder operations is probably due to an injury to the duct and stricture, or to a recurrence or an oversight of stones in the duct. In cases of post-operative stricture, if the gall-bladder is present, an anastomosis between this organ and the gut may relieve the situation. If the gall-bladder has been removed, operative restoration of the bile flow is more hazardous and often unsuccessful. When the stricture is low down and does not involve the entire duct and the greatly dilated duct above the stricture can be defined, an anastomosis between this dilated portion and the duodenum may be accomplished. When the entire duct is involved or strictured, and represented by little more than a fibrous band, attempts at reconstruction over a small rubber tube may be attempted, but even in the hands of the most experienced surgeons success is rarely



achieved. Judd<sup>5</sup> thinks that certain cases of stricture occur not as the result of operative trauma but rather as a sequence of "a generalized obliterative cholangitis."

Finally, it is in the instances of painless jaundice with a high degree of bilirubinemia, that a differential diagnosis becomes most difficult. In the higher grades of jaundice, that is with a serum pigment of 200-300, differentiation must be between intra-hepatic jaundice and jaundice due to compression of the common duct by an extrinsic tumor, almost invariably a malignant pancreatic tumor. At the Mayo clinic,<sup>3</sup> carcinoma of the pancreas has not been encountered under the age of 35 years. The occurrence of painless jaundice under that age is therefore presumptive evidence of intra-hepatic disease, acute catarrhal, infectious jaundice, etc. Painless jaundice at the age of forty years and beyond may be either intra-hepatic, infectious jaundice, or extra-hepatic, due to tumor obstruction, and the differentiation must then depend very largely upon the demonstration of bile in the intestines. Pancreatic carcinoma occludes the duct quickly and completely, so that persistent absence of bile in the stool or duodenal contents is presumptive evidence of carcinoma of the pancreas. "This rule is, however, subject to some modification. There may be some doubt that the duodenal tube has actually reached the duodenum, and in certain stages of intra-hepatic disease there appears to be complete inhibition of bile flow for a day or two. A working plan, advised by McVicar, which has much to recommend it when doubt exists, is to carry out duodenal drainage on each of three successive days. During the period, the patient may be prepared for operation by investigation of the blood coagulation and by the administration of calcium intravenously, or by transfusion, if indicated. If dry drainage is encountered on three successive days, it will be safer to proceed with operation, even if an occasional exploration reveals a normal pancreas and empty biliary passages characteristic of intra-hepatic disease."

Courvoisier's law,<sup>3</sup> which postulates that the gall-bladder is enlarged in 80 per cent of cases in which jaundice is due to a malignant obstruction by a pancreatic tumor, is regarded by some observers as more of a post-mortem finding than clinical, and its

value as to any real diagnostic assistance is questioned. However that may be, the palpation of a definitely enlarged distended gall-bladder in a patient with painless jaundice, is very suggestive evidence that one is dealing with a case of extrinsic tumor. The dilated gall-bladder is then an excellent index of that great degree of biliary dilatation which is predominantly and characteristically a feature of complete obstruction to the bile duct by compression from a pancreatic carcinoma.

In common with the experience of most surgeons, I have witnessed the gradual decline and ultimate death within a few weeks of patients with a high degree of jaundice in whom adequate operative bile drainage has been accomplished, and in whom the elimination of large quantities of bile failed to alleviate the jaundice. In some of these necropsy showed the pancreatic growth was still local or no stones were present to account for the persistence of the jaundice. The question which then arises is why the continued jaundice in the presence of a very free surgical drainage of bile, with no visible obstruction in the liver, and why the death with no metastases of the carcinoma? The answer is undoubtedly found in the irreparable damage to the liver cell, due to the back pressure from a long-standing obstruction. Furthermore, the inference, as emphasized by all authors, is that patients with persistent jaundice should at once be subjected to a rigid hospital observation and study with a view to reaching an early diagnosis, and, if then requiring operative intervention, this should be accomplished before the back pressure in the biliary tree has resulted in an advanced and permanent hepatic injury. Death from hepatic insufficiency, or so-called cholemia, will most certainly overtake the advanced cases of jaundice whether or not the surgeon has obtained free bile drainage.

To summarize briefly, our jaundice patients are best observed and studied by a short period in the hospital where our present knowledge of jaundice and liver pathology can be brought to bear, and the necessary laboratory and clinical facts assembled for a prompt and accurate diagnosis. Surgery, if indicated, should be had early in order to forestall permanent liver injury. Carcinoma of the pancreas is frequently of slow growth and, although ultimately fatal, the life of the patient

may be materially prolonged by appropriate surgical measures which prevent death from obstructive jaundice.

#### REFERENCES

1. Aschoff: *Pathologische Anatomie*, ed. 6. Jena, Fischer, 1923, p. 931.
2. McNee: *Jaundice: A Review of Recent Work*, *Quar. J. of Med.*, 16:395, 1922.
3. McVicar and Fitts: *Clinical Aspects of Jaundice*, *J. A. M. A.*, 89:2018, 1927.
4. Counseller and McIndoe: *Dilatation of the Bile Ducts (Hydrohepatosis)*, *Surg., Gynec. and Obs.*, 43:729, 1926.
5. Judd: *Effects of Obstructive Lesions of Common Duct of Liver*, *J. A. M. A.*, 89:1751, 1927.
6. Gibbon: *The Van den Bergh Test in Diseases of the Biliary Apparatus*, *Sou. Med. and Surg.*, 1927.
7. Mann and Bollman: *Liver Function Tests*, *Arch. Path. and Lab. Med.*, 1:681, 1926.
8. Graham: *Hepatitis: A Constant Accompaniment of Cholecystitis*, *Surg., Gynec. and Obs.*, 26:521, 1918.
9. Mall: *A Study of the Structural Unit of the Liver*, *Am. J. Anat.*, 5:227, 1906.
10. Hijmans van den Bergh: *Der Gallenfarbstoff im Blute*, Leiden, 1918.
11. Hijmans van den Bergh: *La Presse Medicale*, Paris, 29, 441, 1921.

## CODEINE AND VERONAL HABIT-FORMING DRUGS\*

W. C. ASHWORTH, M.D., Greensboro  
Glenwood Park Sanatorium

Habit-forming drugs are now almost legion in number. The average conscientious physician therefore prescribes these drugs with great fear and trepidation. We all recognize that morphine and its derivatives are habit-forming, and that the effect of these drugs is so subtle and insidious that we are usually on the alert when prescribing narcotics to a neuropathic patient or a patient who is suffering from some chronic painful disease.

The medical profession, however, is now fully conversant with the fact that veronal and associated hypnotic drugs belong to the habit-forming class; therefore prescriptions should be required for the layman to obtain this class of drug, particularly veronal. The physical and mental effects following in the wake of the continuous use of veronal, especially, are so manifest and deplorable that the conscientious druggist hesitates to sell the drug, unless prescribed by his or her attending physician. The mental and physical inertia, plus the disturbance of muscular coordination, stamps the veronal user as a person suffering from a toxic drug of the most pronounced nature. The writer has many times been more or less non-plused in his effort to differentiate chronic veronal poisoning from locomotor ataxia. The symptoms of chronic veronal poisoning are many times so protean that the average physician, unless he is on the qui vive for a drug, may be seriously misled and therefore confuse it with

some organic disease of the central nervous system. The deleterious effect of the continued use of veronal is so obvious to the druggist and doctor that it is but natural for us to feel that the drug should not be purchased unless the purchaser is under the immediate observation of a physician. The writer is satisfied, from observation of veronal addicts, that a large number of mental upsets and much mental deterioration can be traced directly to the drug. The semi-oblivion which is symptomatic of the continued use of veronal is obviously destructive to the efficiency of the addict. The morale of the user is also to a considerable extent destroyed and, with the obtunding of the higher sensibilities, a potential criminal is only a natural product of the drug.

I feel that the druggist only desires to be aware of the salient features of the habit-forming tendencies of sleep-producing drugs, veronal in particular. I am confident that the druggist desires to co-operate with us in reclaiming the veronal addict, and restoring him to a normal state of health. The druggist naturally is in accord with the medical profession that restricting measures by legislation or otherwise should be inaugurated to stop the indiscriminate sale of veronal and allied hypnotic drugs.

The question of codeine being a habit-forming drug has frequently been discussed before medical and druggists' associations and meetings. It has been the observation of the writer that codeine should be classed as a

\*Presented to the North Carolina Druggists' Association, Wrightsville Beach, N. C., June 16, 1928.

habit-forming drug, but it has also been his observation that the harmful effects of codeine, following a prolonged period of use, are much less pronounced than the effects of veronal and associated hypnotics. It is, of course, obvious that the continued use of codeine itself invites the use of morphine or other opiates, but the transition from codeine to other opiates is uncommon. Of course, if the patient has previously been addicted to morphine, or to heroine, the addict may very foolishly entertain the belief that he can take codeine and remain a codeine addict, but such cases are rather infrequent.

It is an interesting fact, however, that the mental disturbances resulting from the continuous use of codeine are much less noticeable than those following the use of veronal. I have also observed that the action of codeine is very ephemeral or evanescent, which is diametrically opposite the effect of veronal. I have frequently noticed a "hang-over" caused by a medicinal dose (10 grains) of veronal. The pronounced toxic effect of veronal, which is in direct contra-distinction to the evanescent effect of codeine, should constitute a danger signal when prescribing veronal. The hang-over effect from veronal is evidently due to the toxic action of the drug on the sleep centre of the brain. Any drug or drugs which have a predilection for the brain centres are very dangerous and should be given with every precaution; the prescribing of them should be restricted solely to the medical profession. The baneful effects of veronal are inescapable, and therefore the continuous use of the drug is equivalent to the undoing, both mentally and physically, of the user.

The deleterious and protean effect of veronal can best be illustrated by the report on the following case. The case will also emphasize the almost insurmountable difficulty of differentiating between chronic veronal poisoning and an organic disease, especially as previously mentioned, locomotor ataxia.

An unmarried lady, aged 28, with no previous diseases except those incident to childhood, entered Glewood Park Sanitarium for the purpose of receiving treatment for some obscure and complex condition of the nervous system. In obtaining the history she was questioned very closely about her previous habits, especially in respect to the use of

habit-forming drugs. She emphatically denied any addiction to drugs of any description. On physical examination, she appeared to be suffering from practically all the classical symptoms of locomotor ataxia, with the exception possibly of the so-called Argyll Robertson pupil. Her body swayed in various directions when she stood erect with eyes closed and feet close together. She was unable to walk across the room with her footsteps following a straight line, such as a crack in the floor.

It was only natural, from the summation of all her symptoms that a tentative diagnosis was made of locomotor ataxia, and since this disease is always due to syphilis, acquired or inherited, a spinal puncture was advised for the purpose of securing some fluid for a confirmation of our tentative diagnosis of the disease. It was especially interesting to us that, when a spinal puncture was advised, the patient became highly emotional and insisted very vigorously that she did not wish it done. She was told that it was of great diagnostic importance, and that she could not be treated intelligently unless she submitted to this procedure. It was just at this critical moment that the patient commenced to cry and confessed that she had been taking veronal every day for the past six months and an occasional dose for some months prior to that time.

This case, I think, will convince the most skeptical that veronal poisoning should be denominated as a serious disease. I could recite a number of cases suffering from veronal poisoning similar to the above, but I do not think it necessary to burden this assembly with statistics and case reports, which are usually tedious.

#### SUMMARY

1. Veronal and codeine are habit-forming drugs and should only be obtained in accordance with the regulations required in prescribing narcotic drugs.

2. The continuous use of veronal is destructive to both the physical and mental health.

3. Veronal has a predilection for the higher nerve and brain centres.

4. Legislation should be enacted for controlling the sale of veronal and all other derivatives of barbituric acid.



## FOCI AND A SURGICAL PROGNOSIS IN ARTHRITIS

V. K. HART, M.D., Charlotte

Foci and arthritis, individually and collectively, have been given many pages by various authors. This paper embraces only an appeal for a proper perspective which is tantamount to surgery at the right time and hence an accurate prognosis.

From a surgical standpoint there are two great classes: 1. Acute rheumatic fever. 2. Chronic infectious arthritis.

The former is unquestionably a bacteremia with metastatic involvement of various joints. It presents a typical picture and runs a definite course.

Recent work tends to show that the *diplococcus rheumaticus* of Poynton and Paine is probably a streptococcus somewhat similar to *streptococcus viridans*.<sup>2</sup> Swift and Kinsella recovered *streptococcus viridans* in a few cases (8.3 per cent of 58 cases). Suffice to say that the streptococcus of one type or another is probably the causative agent.

The most comprehensive work of recent date is that of Small<sup>11</sup> at the Philadelphia General Hospital. He isolated the so-called *streptococcus cardioarthritidis* and by means of which a therapeutic serum has been produced and used with apparent success. Since it was prepared by injection of the horse intravenously with killed cultures it probably contains both antitoxic and antibacterial properties. This work promises a definite step forward in therapeutics.

The organism was recovered by blood culture from the patient. It is a non-hemolytic non-green-producing streptococcus.

The tonsils are probably the most important of all foci in relation to rheumatic fever. Robey states, "St. Lawrence (*Journal A. M. A.*, October 16, 1920) studied the effect of tonsillectomy on the recurrence of acute rheumatic fever and chorea in a group of 94 children and concluded that tonsillectomy seemed to be the most important measure at present available for the prevention of acute rheumatic fever and allied rheumatic affections. Alexander Lambert (*Journal A. M. A.*, April 10, 1920) concluded that tonsillectomy played an important part in the reduction of acute arthritis in the Bellevue Hospital. Lillie and Lyons, of the Mayo Clinic, studied

200 consecutive cases of tonsillectomy in myositis and arthritis and concluded that the operation was justifiable in every frank case with marked improvement in 79 per cent of all cases. Taken by and large, teeth are less frequently the cause of rheumatic fever than tonsils. The sinuses should be thoroughly inspected."

It is well to interpolate here a case which Abraham<sup>1</sup> reports. The patient developed a right sided pan-sinusitis. Culture of the pus from the nose showed practically a pure growth of streptococcus. The patient had a right-sided sphenoid and ethmoid operation, an enlargement of the naso-frontal duct and drainage of the maxillary sinus through the nose. The evening of the operation, the patient developed a painful multiple arthritis. Streptococcus vaccine was given in conjunction with the intranasal syringing. The patient left the hospital well in ten days.

It is reasonable to conclude then that sinus suppurations of a streptococcic nature are possibly some of the important factors in precipitating an acute rheumatic fever. This conclusion is further strengthened by the work of Mullin and Ryder, whose experiments<sup>5</sup> show ample lymphatic drainage of the sinuses. Some of their important conclusions are:

"1. Lymphatic absorption from the antrum, whether of bacteria or of inert substances, is by the way of the submaxillary and internal jugular nodes, which latter include the anlage of the retropharyngeals in man, to the lymph ducts, the great veins, the right heart and the lungs. Substances reaching the lungs may, of course, pass on to the left heart, and may also be taken up by the pulmonary lymphatics and reach the bronchial nodes. . . ."

"4. Absorption from the frontal sinus seems to follow the same course as absorption from the antrum. . . ."

It would seem that such pathologic processes might break directly into the venous supply of the sinuses. Such occurrence would, of course, make possible direct metastasis by the blood stream.

Eradication of obvious foci, then, is amply justified as prophylaxis against acute rheumatic fever. This treatment surgically also



offers a better prognosis even after the onset. Judgment must decide the time of interference.

Chronic arthritis presents quite a different picture. Indeed, a review of the literature leaves one rather in a daze. Certainly the most common-sense articles on the classification of the chronic arthritides are those by Cecil.<sup>3, 4</sup> He first divides them on a basis of pathology into proliferative and degenerative. These he subdivides as follows:

#### PROLIFERATIVE

1. Chronic infectious arthritis, referable to foci of infection.

2. Specific arthritis, caused by specific bacterial infection. The gonococcal, syphilitic and tuberculous cases come in this group as well as the so-called surgical joints, staphylococcus arthritis, pneumococcus arthritis, etc.

3. True arthritis deformans, a chronic progressive polyarthritis of unknown origin.

#### DEGENERATIVE

1. Arthritis of the menopause.

2. Degenerative monarticular arthritis (*morbis coxae senilis*).

3. Senile arthritis.

He concludes that the proliferative form is probably of infectious origin. In such cases then radical treatment of foci is warranted. Such search must include the genito-urinary organs in both sexes, particularly the prostate in men. Such are often not venereal. When so, the arthritis is usually specific. The patient may be promised at least improvement by surgical treatment of foci.

Rosenow<sup>8</sup> was one of the pioneers in demonstrating the relation of streptococcus to this type of arthritis. This was done some fourteen years ago and no one has as yet added thereto. The glands draining the joints were cultured. Streptococcus was recovered in 14 cases, only 3 of which were viridans. He states the others resembled more the viridans than the hemolytic. Probably today these latter would be classified as non-hemolytic. In a later contribution he showed the remarkable predilection of various strains of streptococci isolated in patients with myositis from tonsils, teeth and muscle for various groups of muscles and joints after animal inoculation. This is a classical piece of work.

Should surgeons, however, forget the other

large group of arthritides, i. e., the degenerative group? Is surgery really justified in an obvious arthritis of the menopause or of senility? Should not, by surgeons themselves, particularly nose and throat men, an intelligent concept be given the prospective candidate for surgery? Should surgeons forget that in addition to the above mentioned degenerative type of arthritis there is a true metabolic arthritis as in gout?

Indeed, the surgeon should never run a patient through the whole gamut of focal operations just because he has an arthritis. The patient should first be accurately classified and this means an intensive clinical, x-ray and blood chemistry study. Following this intelligent therapy may be recommended and a corresponding prognosis given. Thus a high blood uric acid would hardly suggest operative procedures until medical treatment had first been tried.

In concluding, may it not be said he is a wise surgeon who knows when *not* to operate? The astute doctor will also realize that sometimes a true infectious arthritis is coincident with the menopause or advancing years.

The scope of this paper does not permit discussion of very valuable adjuncts in treatment in properly selected cases. Such include orthopedic appliances, massage and baking, physiotherapy, intramuscular proteins and intravenous therapy such as use of O-iodoxybenzoic acid. Proper selection, of course, only emphasizes proper classification.

#### BIBLIOGRAPHY

1. Abraham, J. H.: Streptococcal Pansinusitis. Acute Multiple Arthritis. Laryngoscope, 1914, 24; 622-624.
2. Cole, Rufus L.: Experimental Streptococcus Arthritis in Relation to the Etiology of Acute articular Rheumatism. Journal Inf. Diseases, 1904; 1; 714-737.
3. Cecil, Russell L., and Archer, Benjamin H.: Classification and Treatment of Chronic Arthritis. Journal A. M. A., Sept., 1927, 87; 741-746.
4. Cecil, Russell L.: Etiology of Chronic Arthritis. Southern Medical Journal, Jan., 1924. 21; 20-25.
5. Mullin, Wm. V., and Ryder, Chas. T.: Study of the Lymph Drainage of the Accessory Nasal Sinuses. Laryngoscope, March, 1921, 31; 158-178.
6. Poynton, F. J., and Paine, A.: The Etiology of Rheumatic Fever. Lancet, Lond., Sept. 22, 1900, 11; 961-869; Cont. Sept. 29, 1900, 2; 932-935.
7. Robey, W. H.: Rheumatic Fever. Boston Med. and Surg. Jour., Jan. 17, 1924; 89-92.
8. Rosenow, E. C.: Etiology of Arthritis Deformans. Journal A. M. A., April, 1914, 42; 1146-1147.
9. Rosenow, E. C., and Ashby, Winifred: Focal Infection and Elective Localization in the Etiology of Myositis. Archives of Internal Medicine, Sept.,

1921, 28; 274-311.

10. Swift, H. F., and Kinsella, R. A.: Bacteriologic Studies in Acute Rheumatic Fever. *Arch. Inc. Med.*, 1918, 19; 381-396.

11. Small, James Craig: The Bacterium Causing

Rheumatic Fever and a Preliminary Account of the Therapeutic Action of Its Specific Antiserum. *The American Journal of the Medical Sciences*, Jan., 1927, 173; 101-129.

## THE AMERICAN MEDICAL ASSOCIATION OF VIENNA

Organized for the Systematic Promotion of  
International Post-Graduate Study

VIII., Alserstrasse 9

Address All Communications to the Secretary  
Vienna, Austria,

Aug. 12, 1928.

Dear Dr. Northington:

I will try to give you some worth-while facts concerning the possibilities of medical and surgical work in Vienna.

I am delighted to say that the professors and doctors of the University Medical Staff co-operate heartily with the A. M. A. of Vienna and make it possible for the American doctor to see practically every bit of the medical and surgical work done in the many hospitals.

There are sixty-one hospitals and clinics within a few minutes' walk, while twenty-eight or more are at some distance from the association and the main university buildings. Each of these hospitals is divided into clinics named for many European men who are or have been famed in medical history and modern medicine. When one visits these institutions he sees emblazoned on the entrance gateways in big letters names such as Ortner Clinic (Second Medical of the Allgemeines Krankenhaus), Lorenz Clinic, Pirquet Clinic (Pediatric), Peham Clinic (First Obstetrical and Gynecological), Eiselberg Clinic (First Surgical of the Allgemeines Krankenhaus), and many others.

When one enters these gateways, instead of being received in a curt business-like manner, he is welcomed with true Austrian courtesy and, no matter what his mission, be it small or large, his wants are given serious consideration by the "Her" Professor himself or the Dozent and assistants. They never seem hurried or worried, but will talk over a course with you and arrange hours for the same agreeable to yourself and not just to suit themselves.

The American Medical Association of Vienna was an inspiration conceived in No-

vember, 1903, by Dr. Ravold, of St. Louis, and he was elected its first president. The purpose of this organization was to secure co-operation of the professors with the visiting American doctors and this has worked out admirably.

I feel that it is an unfortunate circumstance that the American Medical Association of the United States does not co-operate more heartily with the American Medical Association of Vienna and let its members know just what is being done in trying to help them over here.

Pathology in all its branches is given particular emphasis here, and one can get perfectly splendid training in this line. I am limiting my studies in pathology to the surgical and gynecological aspect and I have received cordial assistance and instruction from the professors and an abundance of fresh material.

Professors Erdheim, Schiller, and Chiari have been especially kind to me in this work; while in surgery one could not receive more attention than is given by Professors von Graffe, O'Frankl, Schoenhauer, Katz and Finsterer.

It will be of interest to the American surgeons to know that the Viennese surgeons are almost universally reducing and treating their fracture cases under local or spinal anesthesia. The cadaver surgery here is far the best I have found at any place that I have ever studied. Fresh material is always available and work is done under the supervision of the professors and dozenten in surgery or gynecology.

I thank you very much for your letter expressing your good wishes.

I am arranging some work in stomach surgery and rejuvenation and if it turns out to be unusually interesting I will write about it later for those of the men who might be especially interested in these lines.

Expressing to you my very best wishes, I am,

Fraternally yours,  
WILLIAM FRANCIS MARTIN.

## PRESIDENT'S PAGE

*Tri-State Medical Association of the Carolinas and Virginia**Jas. K. Hall*

I doubt not at all that we doctors of medicine have a certain degree of trouble with our own minds in an effort to keep from thinking in terms of disparagement of our fellow-physicians. Heredity is a powerful influence. It is not difficult to understand how the pioneer rural physician of a hundred years ago thought less well of his neighbor physician than of himself. Even within my own memory the country doctor was often monarch of all the territory over which he could travel. Rural territory was rather definitely marked out and assigned medically. One doctor did not trespass upon the territory of another. The pioneer doctor lived professionally aloof and alone. He often passed his days in more or less mental isolation. The mass of the people were uneducated. The country doctor was placed upon a pedestal by those to whom he ministered, and in the plane in which they placed him he could see only on occasional minister or a lone lawyer. The people for whom the doctor of olden days practiced looked upon him as more or less omniscient and omnipotent. Such an attitude was necessary for their peace of mind. Why have a doctor in the neighborhood unless he understood disease, could relieve pain, and ward off death? It was entirely natural and easy for the doctor to think of himself as his neighbors thought of him. His own opinion of his attainments was borrowed from them. Such an opinion was comforting to the doctor's egotism, but it did not tend to beget critical self-analysis, nor to raise doubts about possible diagnostic or therapeutic errors. In those days consultations were almost unknown; sick folks were seldom sent to hospitals because there were few hospitals; clinics had not come into being, and one doctor seldom came into professional contact with another at the bedside. The doctor's consultation had to be intracranial. If he were ignorant it was difficult for him to discover his ignorance and if he had doubts they had to be repressed.

Such a life tended to beget powerful indi-

vidualism. In all the professions that was true. The individual minister, lawyer, and doctor were generally dominating factors in community life. Their personalities were often profoundly impressive upon the lay community, but they had little success in advancing professional thought. Their circumstances and situations made it necessary for them to give thought to the welfare of their own people and to themselves rather than to their professions. In consequence of such a state of affairs the professional status quo became a sort of sacred thing. Thought of improving it, modifying it, or disturbing it was looked upon as revolutionary and destructive. In confirmation of that statement think of John Knox, Calvin, the Wesleys, and Roger Williams in theology; Mason, Jefferson, Patrick Henry, George Washington in statesmanship, and Harvey, Pasteur, Lister, and a multitude of other discontented souls in medicine. Professional placidity is bad business. Nothing for the good of the race comes out of it. The birth of an animal is apparently always painful to the mother; the birth of a new idea or a new theory generally brings pain and sometimes death to the person who conceived it; and, if not death, frequently professional ostracism. Did not Nietzsche say that mankind has ever hated a new idea? Men fight for their ignorances rather than in defense of their valid ideas. Knowledge brings humility, and understanding, and patience, and tolerance, and hope, but ignorance causes fear and dread and anxiety and intolerance and cruelty. I can remember when one doctor would occasionally kill another, not surgically or therapeutically, but wittingly, murderously, and in his own opinion justifiably—and so would lawyers not infrequently. Motivating the assault was generally found professional jealousy, a hypertrophied egotism, a too sensitive professional epidermis. Infrequency of medical contact and lack of intimate professional association were provocative of such ill-feeling. Almost every village and town, and



sometimes sizeable cities, were divided into at least two medical factions. Often the lay members of the faction were more bitter than the medical heads of the opposing ranks.

An infinite number of causes is bringing about a change in the attitude of the doctor towards himself as well as in the attitude of the community towards him as a helpful professional man. Every intelligent and honest doctor is keenly alive to the limitations of his professional knowledge. He understands that what he actually knows in medicine is exceedingly little. He knows that he must maintain an open mind; that he must entertain no opinion so fixed that he can not gladly replace it with a better opinion. He must believe that evolution is at work in the domain of thought and that yesterday is the mental childhood of tomorrow. The large-minded doctor knows that the advancement of the profession is much more important racially than his own individual advancement, and that such progress must come through the concordant and harmonious action of the individual members of the medical profession. The lone doctor must sometimes die in order that an idea may be born or be made

acceptable. Lay people have found out that their help lies not solely in the skill of the one doctor but in the profession of medicine, and they believe that in the multitude of doctors there may be healing for their hurts. Such a state of public mind establishes community hospitals and maintains them, and by influencing certain wealthy persons it creates the great medical foundations. But we doctors are going to have to work together more and more. The day has passed and gone when the doctor could play a lone hand. The sick person calls upon the medical profession for help, and not upon the individual doctor. We doctors are not a bad lot. But we are often ignorant, prejudiced, narrow-minded, intolerant, boastful, and destructively critical of our fellow. I have never known thoroughly a human being in whom there were no good qualities. I know few doctors who do not serve an enormously useful purpose. Almost every doctor is a medical volume; some are shelves; a few are complete medical libraries. A good medical society meeting affords the best opportunity for helpful and wholesome professional association.





# Southern Medicine and Surgery

Official Organ of

{ Tri-State Medical Association of the Carolinas and Virginia  
{ Medical Society of the State of North Carolina

JAMES M. NORTINGTON, M.D., *Editor*

## Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	Human Behavior
FRANK HOWARD RICHARDSON, M.D.	Black Mountain, N. C.	Pediatrics
W. M. ROBEY, D.D.S.	Charlotte, N. C.	Dentistry
J. P. MATHESON, M.D.	Charlotte, N. C.	Diseases of the Eye, Ear, Nose and Throat
H. L. SLOAN, M.D.		
C. N. PEELE, M.D.		
F. E. MOTLEY, M.D.		
THE BARRET LABORATORIES	Charlotte, N. C.	Laboratories
O. L. MILLER, M.D.	Gastonia, N. C.	Orthopedic Surgery
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	Urology
JOHN D. MACRAE, M.D.	Asheville, N. C.	Radiology
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	Dermatology
PAUL H. RINGER, M.D.	Asheville, N. C.	Internal Medicine
GEO. H. BUNCH, M.D.	Columbia, S. C.	Surgery
FEDERICK R. TAYLOR, M.D.	High Point, N. C.	Periodic Examinations
HENRY J. LANGSTON, M.D.	Danville, Va.	Obstetrics
CHAS. R. ROBINS, M.D.	Richmond, Va.	Gynecology
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	Neurology
LOUIS L. WILLIAMS, M.D.	Richmond, Va.	Public Health

## THE MAGNIFICENT EXPERIMENT

The controversy over the question of cancer and heredity has long rocked the profession with argument. Now comes Miss Maude Slye with her experimental studies with mice, and proves that heredity plays an all-important part in the production of cancer. She can breed cancer into mice, but she also shows what is more important, that by a proper selection of parents cancer can be bred out again. The mouse was chosen because he is anatomically similar to man, because he is subject to cancer, and because cancer develops in him at the same relative age as it does in man. Her work is based on necropsies on 67,000 mice, and according to her the susceptibility follows very closely the laws enunciated by Mendel in his work with plant breeding.

She has shown that if two non-cancerous mice are mated, the offspring will show 100 per cent freedom from cancer. On the other hand if two cancerous mice are mated, the offspring will show 100 per cent cancer. If a non-cancerous and a cancerous mouse are mated, the first generation of these (hybrids) will show no cancer. If two of these hybrids

are mated, one-fourth of the offspring will show cancer, and three-fourths will be cancer free, again following the Mendelian rule. If a hybrid cancerous mouse is mated with a non-cancerous mouse, no cancer develops in their offspring. This can be repeated indefinitely, Miss Slye having carried her experiment through twenty-eight generations without the appearance of a single case of cancer. But in the twenty-ninth generation when two hybrid cancerous mice were mated, their offspring were cancerous.

Now for the solution. Miss Slye recommends a central bureau for the registration of cancer in families, so that the exact information she has gained in her studies of mice may be applied to humans.

We are a queer, quick people. We demand quick results. We want two or more crops in one year. We are impatient of delay. We must see results; we must get credit. Miss Slye has given us something big to think about, something that only an Oriental or Egyptian mind could grasp and truly evaluate. A Chinese gentleman once remarked to a friend of the Manchu conquest of China that their hold was only temporary. "Agreed,"

said the other; "I greatly doubt that their hold will last over one or two centuries." "Certainly not over three," said the other. The builders of the pyramids must have also thought in centuries.

And so to meet this problem we must look back through the centuries of cancer history, and see how pitifully small have been our results for all our efforts in combating this disease. Then we should look forward with the eyes of the Oriental, and make a start for our children's grandchildren. Thomas Jefferson spoke of the Lewis and Clark expedition which was to open a new continent to civilization as "A Magnificent Adventure." May we not call this the magnificent experiment?

*W. Lowndes Peple.*

#### SHORTER SCHOOL HOURS FOR THE SMALLER CHILDREN

For many years a considerable minority among teachers, parents and school board members have thought it would be well to shorten the school day for the pupils in the first few grades. As usually happens when innovations are proposed, the arguments for and against were made up largely of statements of impressions, or of opinions based on inadequate and uncontrolled observations.

In the latter part of the school year 1916-1917 and through the school year 1917-1918 to April 1st, there was carried out in Richmond, in a well controlled, scientific manner, an elaborate experiment, with the object of learning something about this subject. The investigating committee was made up of four physicians, two mothers and one teacher. Their method of procedure will be found, along with an extended report of results, in another department of this issue (P. 636). Data on a subject of vital importance to so many, compiled by the laborious work of so capable a committee over so long a period, demand careful investigation and wide distribution.

A detailed study of all features of the report is urged on all doctors and all parents into whose hands it comes. We shall only summarize and comment briefly. Apparently, it is assumed that a hot mid-day meal is a good in itself; which is to us a very welcome change from the opinion expressed by a dis-

tinguished surgeon some score of years ago to the effect that the eating of hot food was largely responsible for gastric cancer. Under the shorter-hour regime the number getting a hot mid-day meal was doubled; and there was a 34.3 per cent greater increase in weight per pupil having shorter hours. Absence because of illness (other than measles) was 600 per cent greater under longer hours. The deportment of the shorter hour pupils showed improvement. The failures of promotion were the least in the history of the school. Finally, more than seven-eighths of the parents of children in the schools under shorter hours say the shorter hours have proved beneficial to their children.

Our own attitude toward the lessening of school-hours has been certainly no more than luke-warm. In general we are very much of the opinion that for every man, woman and child who dies prematurely in this country from over-work, a hundred die from over-eating, and a dozen or two just rust out. Our personal limited indulgence in work is not based on fear of its untoward effects, but is due, rather, to disinclination.

Since studying this report, we are very much disposed to favor the shorter hours in school. As to hours out of school, we can not refrain from calling attention to an editorial in the June issue of this journal.<sup>1</sup>

#### 1. On Starting Schooling Right.

#### RELIEF FOR THE HIGH BLOOD-PRESSURE VICTIM

A little familiarity with the history of medicine acquaints us with many instances of harm done by our well-meaning forefathers in the profession in their efforts to "do something" for their patients. Much of this harm came from assumptions without adequate reason, even in the light of the knowledge of the time; and it is clear that many of the assumptions were made to avoid the necessity of saying, "I do not know."

Most likely at least 95 per cent of patients under treatment for high blood-pressure have been strongly advised to give up meats, and to greatly restrict their use of salt and tobacco. Plainly such restrictions work a great hardship, as all of us have learned from the bitter complaints of patients of our own or of others. It is with shame that we admit

that most of this hardship we have imposed ignorantly and entirely needlessly.

In a discussion of hypertension<sup>1</sup> which made an extremely important part of the program of the latest meeting of the American Medical Association, it was shown that there is a considerable range of blood-pressure compatible with health; that active treatment need not be instituted till definitely high levels are reached or symptoms develop; that there is no specific cure; that low protein diets, drugs, serums, restriction of table salt, all have proved valueless. There was agreement that the most important dietary restrictions should be of fats and carbohydrates, with a view to reducing the cubic contents of the body and thereby lessening the demands on the cardio-vascular-renal system. It was pointed out that Allen's salt-free diet would, under certain circumstances, reduce blood-pressure, but at the cost of distinct weakness; which brought out the fact that it was necessary that these individuals maintain a level above normal in order to be at all comfortable. At the first sign of cardiac complications salt should be restricted. Only very rarely is there any reason for limiting water.

As always, we find that eminent scientist and teacher, and above all, that great *doctor*, Joseph L. Miller, speaking out for rational medicine. Opening the discussion of Dr. Mosenthal's paper he said: "I think it is most unfortunate that these people with hypertension, who represent a rather large group, have certain regulations inflicted on them which, while of no benefit, yet constantly remind them that they are not well. I think the restriction of salt is a hardship without results. To take these people entirely off meat reminds them that something is the matter every time they sit down to the table. I see no reason why they shouldn't smoke moderately. I think they should attempt to keep down their weight because of the increased burden on their hearts. Strenuous physical exertion is a danger to the heart. In recent years I have usually confined my advice to those patients, outside of weight and strenuous exercise, to cultivate calmness, just as Dr. Mosenthal has stated. If he is a busy business man he should shift some of his bur-

den. My advice to my patients is to cultivate calmness, as it is the essential thing in the treatment of hypertension."

In each sentence one can see Dr. Miller going in spirit along with his patient through his daily life, putting himself in the place of the patient, studying out for him, not only the longest span of life, but, as well, the greatest measure of comfort and happiness.

Here is much of relief for the men and women who have high blood-pressure, for here is assurance based on the most carefully checked experience that they can lead practically normal lives without hastening their ends.

And here is additional evidence that the burden of proof is on the man who says we should not follow our natural inclinations as to when and what we shall eat and drink, and as to most other things.

Be sure you do no harm.

## RULES FOR MANAGEMENT OF OBSTETRICAL PATIENTS

F. W. Rice in *Jour. Iowa State Medical Society*, July

Always see patients early, before pregnancy has a chance to modify their symptoms and physical findings. For example, high blood-pressure found late in pregnancy may have been caused by toxemia of pregnancy, or the patient may have had it for a period of years.

At the first visit, take a complete history, and make a complete physical examination. Be sure to note the blood-pressure, urinalysis, pelvic measurements, the presence of fibroids, cysts, retroversions, malignancies, scarred cervix, chronic appendicitis, and the effects of operations and injuries. The wassermann test should be done when indicated and, if positive, vigorous treatment carried out.

See patients often; ask about their various symptoms; regulate their activities and hygiene. Blood-pressure should be noted and urinalysis done every two weeks. This will practically always warn one of approaching toxemia. Williams says, "The greater extension of prenatal care is the most efficient means of preventing eclampsia." It is safer to have the patient void in the office, to prevent specimens being brought in clean bottles that contain enough syrup or other in-

1. Treatment of Essential Hypertension, H. O. Mosenthal, M.D., New York.



redients to give a test for sugar, albumin or diabetic acid.

Examinations should be done often enough to detect and correct malpositions of the fetus, edema, and varicosities; also to observe lightening and dilatation of the cervix, in cases of uncertain dates.

Do not induce labor merely because the patient's dates show she should be due. I have seen premature infants delivered that way; one that was barely viable. When we really get down to facts, how many of us have seen a baby overdue enough to cause complications? Even in contracted pelvis DeLee says, "Induction of labor is not recommended because of its high fetal mortality." Williams has the same opinion.

Do not forget that the patient is your patient; so watch her yourself. No one can be expected to take an interest in someone's else patient; besides the presence of her doctor improves her morale.

Remember that a patient in labor is more than an ordinary operative risk. The placental site is a fertile field for infection, which is quickly thrust into the circulation through the placental sinuses.

Do not deliver a patient until you are thoroughly scrubbed, capped, masked and gowned; and until the patient is shaved, scrubbed and draped as though for a vaginal operation. This also applies to the examination of patients in labor. Most puerperal patients who die, die from infection; and most infection is caused by a break in the above technique. Sir Victor Bonney says that the vagina should be regarded as a wound, into which the passage of anything unsterilized, is a transgression of the ritual of aseptic surgery.

Do not examine patients in labor oftener than necessary and use the rectal route when practicable. This applies especially at the end of the second stage. How often do we see physicians carefully refrain from making more than one or two vaginal examinations during labor—and then, as soon as they get the patient on the table, make ten or fifteen examinations in as many minutes.

Do not give pituitrin in labor unless it is absolutely indicated, and then in very small doses. Its use often causes rupture of the uterus or asphyxiation of the child.

Do not give the patient hot douches to

stimulate labor pains; the solution may enter the uterus through the dilated cervix and cause infection.

Do not forcibly dilate the cervix during labor. To do so will often tear the cervix or lower uterine segment, with the resulting hemorrhage and infection.

Do not rupture the membranes as long as they are of any use to the patient; and never during a contraction.

Do not encourage a patient to strain during the first stage of labor. Straining tires her out and forces the whole uterus down into the pelvis; thus increasing the danger of cystoceles, rectoceles, and procidentia.

Always keep track of the fetal parts and heart tones; so as to be able to deliver the baby quickly in case its heart becomes irregular. Many babies are sacrificed by this neglect.

Remember a patient in labor is doing the hardest kind of work and needs some nourishment. It should be light and easily digested.

Do not let the bladder become distended during labor. It delays the descent of the head, causes irritable bladder that needs catheterizing, and increases the risk of cystocele.

Always deliver the patient spontaneously when practicable. The use of the forceps should lose some of the spectacular after-tern days are over. It should not be necessary to stress the dangers to both mother and child by their use.

Do not deliver the child during a contraction; it increases the chance of laceration.

Do not force the head away from the perineum too vigorously; it overstretches the anterior vaginal structures and causes subsequent cystoceles. Here is where an episiotomy relieves the strain on both anterior and posterior vagina.

At the end of the second stage, when the contractions are weakened by fatigue or anesthetic, the judicious use of pituitrin will often make forceps unnecessary. Only enough should be given to cause contractions of normal strength and frequency.

Do not pull hard on the baby's head when extracting the shoulders; such traction may dislocate the neck or tear the brachial plexus. In such cases an episiotomy of sufficient proportions will relieve the strain on the baby's



neck and also the mother's perineum.

Always irrigate the perineum with lysol solution frequently during labor, to keep it free from fecal contamination. In addition it may be painted with mercurochrome 220.

When wiping the baby's mouth immediately after birth, always use cotton flannel and not gauze. That a gauze covered finger is rough enough to literally wipe off adenoids, precludes its use as a mouth wipe.

Always give pituitrin immediately after the baby is born, and ergot as soon as the placenta is delivered. To do so will practically always prevent post-partum hemorrhage.

Never hurry the placenta; wait at least twenty minutes, or until the cord lengthens. When it loosens, support the abdomen with the hand or binder and let the patient expel it by her own efforts. This avoids the trauma from Crede, most of the time. Never make traction on the cord.

Never insert the hand into the uterus after the placenta is delivered to see if everything is all right. There are men in our profession who, with the assurance that must be born of ignorance, make a practice of this most pernicious procedure.

Always examine the placenta carefully to see if it is intact.

Never express the clots from a uterus that is already well contracted, for more will surely take their place from renewed bleeding at the placental site.

Always watch the fundus for an hour after delivery. Many hemorrhages begin some time afterwards from delayed relaxation.

Admit the presence of and repair all lacerations carefully. It is no particular feather in one's cap to deny the presence of a laceration and let the patient find it out later at the hands of an unfriendly colleague.

Never deliver the patient by forceps or version except in the interest of the mother and baby. When such procedure is necessary, be sure that the cervix is fully dilated and effaced, that the bladder is empty and that the patient is under anesthesia.

Do not fasten the perineal pad so tight as to dam up the flow of blood, drainage of lochia, or the passage of involuntary stool; and thus contaminate the vaginal passage.

Visit the patient each day she is convalescing. Look for and correct all possible symptoms. How easy it is to neglect these visits

when the patient is apparently all right, only to find later that a preventable complication had arisen.

Give ergot in half-dram doses for the first few days; it hastens involution, and diminishes the chances of post-partum infection by keeping the placental sinuses closed.

Do not pump or massage engorged breasts preceding lactation; there is no milk in the breasts, and the manipulation may cause trauma.

Never douche post-partum patients; it does no good and increases the chance of infection.

Do not express clots during the puerperium; it traumatizes the placental site and causes further bleeding.

Many of the items in this list may seem quite unnecessary; but strict adherence to their tenants has saved me a lot of grief.

In closing let me emphasize that it is attention to the little things that will prevent 85 per cent of our obstetrical complications; that a little common judgment, plus as much interest as we take in operated cases, are the two most essential things; and lastly that we must never lose sight of the fact that the doctor must also be a preacher; preach to himself, preach to his nurse, and preach to his patients; for if obstetrics is to be advanced as fast as other branches of medicine, we must all be conscientious, and do that which is best for the patient, regardless of whim, greed or that disinclination to do one's work well, commonly called laziness.

---

Dentist—Now, I'm not going to hurt you at all, so just—

New Patient—Cut out the professional chatter, old man. I'm a dentist myself.—*Answers*, London.

---

A soap manufacturing company advertised a contest for slogans. They also made perfume. Here is a slogan that came in which they could not use. It read: "If you don't use our soap, for heaven's sake use our perfume."

---

First Co-ed (noticing sign in the library): "Only Low Talk Permitted Here."

Second Co-ed: "Fine, now I can go on with the story I was telling you."—*Oklahoma Whirlwind*.

---

## DEPARTMENTS

### HUMAN BEHAVIOR

*For this issue, M. A. GRIFFIN, M.D., Asheville  
Appalachian Hall*

#### THE PROBLEM OF THE MENTAL DEFECTIVE

Man started his progressive career first by subjecting animals to his control, probably first of all the dog, then the ox, then the horse, the camel and the reindeer. They must have been comparatively useless for long ages, but mastery came to man—as yet savage man. Then came the gradual utilization of wind power and water power. All civilization up to the nineteenth century depended upon these three powers—animal, wind and water. Columbus came into the possession of a new continent by wind power. All domestic economy depended upon water power to turn the wheels to grind the corn and full the cloth. Steam power began closely identical with the beginning of the nineteenth century and from that time on the pace of progress has quickened with every rising of the sun.

A hundred years of history has closed which has done more to revolutionize the world than any two centuries the world has ever seen. A hundred years ago we had no appendicitis, nor cerebro-spinal meningitis; no brain storms justifying murder, nor hook worms excusing laziness—nothing but folks, just downright folks who believed in hanging for present punishment, hell for future punishment, and calomel for all the ills of life.

What mighty changes have taken place in the last century. Man has annihilated time and space. He sits in silent observatories measuring with unerring instruments the throbbing of the globe as it trembles with volcanic eruptions. He knows years in advance the minute when the sun ninety millions of miles away will be darkened by the shadow of the moon. He calculates the arrival of a comet, never seen by his generation, two hundred years in advance of its coming; he weighs the sun and measures its heat; he imprisons a ray of light and makes it tell what sort of a world it came from; he maps out the heavens and photographs stars

beyond the reach of human eyes. By skill and science he has prolonged the average of human life; by knowledge and reason he has conquered the terrors of death. He has found a common origin for animals and plants and a kinship between them and man.

He has found that typhoid fever is due to a bacillus rather than to the sap from the big oak tree which stood by the well. He has found that malaria is due to a parasite transmitted by the mosquito rather than to the fogs from the frog pond in the fall of the year. He now recognizes insanity as a disease, erects hospitals for the care and treatment of individuals so afflicted, restores them to their normal health and sends them back to their homes well and happy again, rather than strap them to trees or bend them over barrels and “beat the devil out of them.” He builds jails and crowds them full; he erects penitentiaries and overflows their walls. Never was the human mind so active, so powerful, so creative and so daring as during the century past.

But what about our social progress? During the past few years the subject of social and philanthropic questions has evoked a large amount of attention from many prominent persons and most especially to the medical profession it is one of much importance. Never was the human mind so active, so powerful, and so creative as in the past century; but, unfortunately, this does not apply to all the human beings who tread the earth. We have with us a class of human beings which we call “mentally deficient” or “the mental defective.” When we once realize the fact that there are approximately half a million of such individuals in the United States we are bewildered. What can we—or rather one might say—what must we do with such individuals? “Colonize them,” says one; “sterilize them,” says another; “educate them,” says another. Each plan has its advocates and each has its difficulties. We are persuaded more and more each day by their behavior that the feeble-minded individual is not just the moron, the imbecile, and the idiot, but that the pauper, the criminal,

drunkard, the prostitute—and, also, the ne'er do-wells—are mentally defective.

We find that probably two-thirds of the feeble-minded have inherited their feeble-mindedness. Also that the greater portion of them are the most prolific individuals in the human race: their families usually are twice the size of that of the normal minded individual's family. Hence it seems that society must attack the problem of feeble-mindedness and that the most effective way in which this may be done is from the standpoint of heredity. If it were only a question of caring for those on hand, the problem would be a simple one and soon ended; *but this group is rapidly growing larger*; consequently, we find the situation hopeless unless we attack it differently and more vigorously than we have in the past. It is a matter of taking care of the natural increase at present, and most especially cutting off the source of supply.

We boast of our good roads, our public schools, our colleges and universities, our schools for the deaf, the blind, our hospitals for the insane and other state institutions. We spend billions of dollars each year in the operation of our courts, our workhouses, chain gangs, penitentiaries, our army and navy. The total cost of crime in the United States is greater than the cost of education. This tremendous disparity suggests a rather humorous incident which occurred in one of John Morley's campaigns in Scotland. Wilson, his opponent, was making a speech, when he was suddenly nonplussed by the question from the crowd: "Is Maister Wilson in favor of spending \$36,000,000 a year on the army and navy, an' only \$12,000,000 a year on education?—that is to say, twelve millions for pittin' brains in and thirty-six millions for blowin' 'em out?"

So long as we continue to expend more money in putting men into the penitentiary than we do in trying to keep them out, we cannot reasonably expect any substantial decrease in crime and therefore the heaviest drain upon our national resources will continue unabated. If all these criminals, who are confined in our penal institutions could be properly studied and analyzed, how many would qualify as being of normal mentality? The more familiar we become with mental defectiveness, the more inclined we are to

suspect all persons who are incapable of adapting themselves to their environment and living up to the conventions of society as being mental defectives. It is quite surprising to see how many persons who have to do with criminals are coming forward with the statement that a greater or less percentage of the persons under their care are feeble-minded.

Since feeble-mindedness is with us, and undoubtedly our greatest social problem, we must look for a remedy. Colonization, sterilization and education, each has its advantages and probably each has its difficulties, why not adopt all three and apply the remedy to all mental defectives? It goes without argument that it is mostly hereditary and to stop the supply is to destroy the source. The only feasible way to do this is to sterilize the would-be propagators, segregate them in suitable colonies, surround them and supply them with everything for their comfort and pleasure, with useful and profitable employment; and in the end we shall find that such individuals are not only safer and more useful, but also much happier in a suitable institution affording the companionship of their compeers.

The remedy as suggested may sound quite radical, but the condition of mental deficiency is one which is attended with the most important and far-reaching social consequences. The economic disability, the anti-social propensities, and the rate of propagation of these persons combine to constitute a problem which no civilized country can afford to neglect, either in the interests of the defectives themselves, or in those of the general community. So long as we are content to raise no voice against the propagation of such individuals and are willing to feed, clothe, and ultimately pension as many offsprings as these persons see fit to produce; so long as our law makers and would-be philanthropists are blind to the folly of transferring the burdens and penalties inevitably following carelessness, improvidence, indifference, drunkenness and unlimited selfishness from the shoulders of those upon whom they should rightly fall to the careful, provident and industrious members of the state—then so long will these classes (and these qualities) continue to be perpetuated and their numerical ascendancy be simply a question of time.



## EYE, EAR, NOSE AND THROAT

For this issue, C. N. PEELER, M.D., Charlotte

### PRE-OPERATIVE AND POST-OPERATIVE LARYNGOSCOPY IN THYROID DISEASE\*

Trauma to the recurrent laryngeal by thyroid enlargements, or as a result of operative procedures, is well recognized. The resulting symptomatology is varied.

Anatomically, these facts are of importance in interpreting such symptoms and in a prognosis: 1. The recurrent laryngeal carries about six hundred and eighty fibres to the adductors, and two hundred and eighty-one to the abductors. 2. The abductors occupy a central position in the nerve. 3. Despite this central location, they are more vulnerable to trauma. 4. The abductor fibres also innervate the respiratory apparatus of the larynx. 5. The recurrent laryngeal is most superficial when it pierces the cricothyroid membrane. Consequently an abductor paralysis may supervene on one side with no dyspnea or voice disturbance. It is recognized only on careful laryngeal examination. Simultaneous loss of abduction on both sides, of course, gives dyspnea, because both cords are in the median line. This may be intense enough to require tracheotomy though phonation may be practically unaffected.

When both abductors and adductors become involved the cord assumes the intermediate or cadaveric position with consequent voice disturbance. If just on one side, the other cord may in time compensate and give fair voice production.

Pre-operative laryngeal examination may then discover an unsuspected abductor paralysis on one side and hasten operation to relieve the affected nerve. Post-operative examination, by finding a normal larynx, may vindicate an operator for a paralysis appearing late post-operatively as the result of scar tissue formation.

\*Abstracted from article by Depuy, Homer: The Laryngeal Nerves: Their Relation to the Thyroid Gland. *Southern Medical Journal*, January, 1927, Volume XX, pp. 15-18.

## LABORATORIES

For this issue, L. H. SNYDER, Sc.D., Raleigh

### USES OF BLOOD GROUPING

In addition to the very practical application to transfusion, the blood groups have developed other far-reaching relationships. The four groups are now of importance in medico-legal cases, and in anthropology, and are of potential importance in clinical medicine.

The medico-legal application is based on the heredity of the groups. They have long been known to be inherited, but the exact mode of inheritance has only recently been worked out. They are now considered to be inherited as a series of three multiple allelomorphs: that is, they have their hereditary basis in three genetic factors (known as *A*, *B*, and *O*) which are located at a single spot or "locus" on a particular chromosome. Obviously only one blood group factor may be carried on a chromosome at a time, and since chromosomes occur in pairs, the blood group factors will occur in pairs in any individual. The blood group of the individual will depend on which two factors he carries. *A* and *B* are both dominant to *O*, but neither is dominant to the other. Thus, an individual carrying two factors for *O* (that is, *OO*) will be Moss group IV. Individuals of *AA* or *AO* are group II. Individuals of *BB* or *BO* are group III. Individuals of *AB* are Moss group I.

Since the pairs of chromosomes split in the formation of germ cells, each germ cell can carry but one blood group factor. The resulting union of male and female gametes restores the two factors to the new individual, causing the corresponding blood group to appear.

From the above it is apparent that each mating between the various blood groups may result in children of definite predictable groups. Conversely, when the blood groups of a child and its mother are known, the blood group of the father may be deduced. These facts have come to be recognized in the courts, and it is often possible to state on the basis of the blood groups that a certain man is not the father of a given child. Of course it is never possible to state that any man *is* the father, but merely that he might be.

In the realm of anthropology, blood groups have taken an important position. They may



be used as racial criteria, along with other characters such as pigmentation, cephalic index, etc. The proportions of the four groups differ in different races, and from the blood group percentages conclusions have been drawn in regard to certain obscure and anthropologically puzzling races such as the Ainu, the Gilyac, and others.

In clinical medicine the importance of the blood groups lies in the possibility that they may be inherited in correlation with some specific disease. Although of course no disease is strictly inherited, yet it is well known that specific susceptibility and immunity have their basis in the hereditary mechanism. This is a phase of the blood group problem as yet unsolved. It is being systematically attacked, and may be expected to yield results of importance both from the point of view of the clinician and of the geneticist.

---

## UROLOGY

*For this issue, MARION H. WYMAN, M.D., Columbia*

### UROLOGICAL AID TO THE GENERAL PRACTITIONER

Every suspicious urological complaint and symptom or abnormal element found in urine should be investigated. The general practitioner should expect a urological report made after a complete urological study to tell him positively whether or not the urinary tract is involved in any given case. In other words, if the proper amount of time is used, and proper study is made, suspicions of the urological tract are susceptible of proof or disproof and can always be declared at fault or cleared of suspicion. The time has about arrived when abdominal operations (especially for chronic complaints in the abdomen) should almost be considered malpractice unless the urine is first declared normal, and an x-ray of the urinary tract is negative.

Within the last few weeks, a patient was referred to a surgeon by his family physician for pain in the lower right abdomen. The symptoms were certainly suggestive of a chronic appendicitis. An x-ray was not done and a so-called "chronic appendix" was removed. Three weeks later, the patient was suffering from the same pain, but more acutely sick this time on account of fever and other septic symptoms. The urine was found to contain pus, the x-ray picture showed a

suspicious shadow in the region of the right kidney, and on passing an ureteral catheter, this kidney was found to be completely filled with pus, under tension, which was not draining. Within a few days, with the ureteral catheter draining, the patient was converted from a desperately ill, septic patient to a good surgical risk.

Pus in the urine, in a male patient even when the expressed prostatic secretion contains pus, which pus persists in fairly large quantities for some time, should cause the patient to be studied with x-rays and cystoscopic examination. The x-ray is almost of equal importance in a urological study as the cystoscope and ureteral catheter. X-ray examinations can and should be made at a reasonable price so that they can be resorted to very frequently. I have made up my mind never to give a urological opinion in any case unless an x-ray is made. I treated a man a few years ago with an infection in his prostate for twelve months and I advised an x-ray several times during this year's treatment; but he could not, or would not, invest the necessary money. Finally, his family physician referred him to a surgeon who immediately removed an appendix which he said was chronically inflamed. While the patient was in bed ten days convalescing from the appendix operation he was fairly comfortable, but immediately upon resuming the erect position his pain returned. He reported back to me for additional prostatic massages. I positively refused any additional treatment if an x-ray was not made. He then consented and the x-ray showed a fairly large calculus in the pelvis of the right kidney. Exactly three weeks elapsed between the appendix operation and the kidney operation. The patient has been well since the calculus was removed, although he still has a slight infection in his kidney and a slight secondary infection in his prostate. *These two cases show where a urological study, including an x-ray, would have saved unnecessary operation on these appendices.*

In closing, I would like to itemize briefly what may be expected from a complete urological study. Abnormal elements in urine, such as albumin, casts, pus or blood, indicate pathology in the urinary tract somewhere between the external urinary meatus and the kidney capsule. The source of these abnor-

mal elements and the cause, including the infecting organisms, should be sought out. Briefly, after a chemical and microscopical study of catheterized urine (especially in the female) is made, a total kidney function and a plain x-ray examination should be done. Residual urine in the bladder or in either kidney pelvis can be determined by the passing of appropriate catheters. In the male, infection in the prostate should be determined by prostatic massage, and in the female, vaginal and cervical secretions and infections should be noted. Blood chemistry and bacteriology on urine is necessary in a number of these patients. On passing the cystoscope any tightness or stricture in the urethra will be noted. A careful view of the bladder and prostatic orifice will disclose any abnormalities. Frequently a bladder capacity is determined and will help some in the treatment of quite a few cases. Ureteral catheters of various size, some possibly with bulbs, will be passed up each ureter, and obstructions noted both on introduction and removal of ureteral instruments. Urine collected from the kidneys is studied separately microscopically and the comparative function of each kidney is determined. Bacteriology on the urine of each kidney is the method of choice when infection is found in either or both kidneys. X-rays with opaque catheters up each ureter and pyelograms give valuable information as to the size and distortions in a kidney pelvis and ureter. The above description, of course, can only be done by one specially trained and skilled in urology, but is not as elaborate in a well equipped office or hospital as it might appear from the above description. If examination of the urine and the total kidney function has already been determined an hour's time will usually be sufficient to state whether or not the urinary tract is responsible for the complaint and symptoms in a given case. Occasionally cystoscopic work may have to be repeated, and the general practitioner or surgeon referring the case to the urologist should not be too impatient and should co-operate in allowing him (the urologist) a sufficient length of time to satisfy all concerned with a complete study and definite conclusions. I believe, and make this statement without fear of contradiction, that urology as a specialty is the most exact specialty from a diagnostic point of view of

any of the so-called specialties. It is assumed, of course, that the urological study is made by a well trained and skilled urologist and the full co-operation is had from the patient and referring physician and that sufficient time is allowed to make all necessary tests and a complete study.

I am a urologist. I do not own, nor am I interested in an x-ray, but have practiced a sufficient length of time to have seen many unnecessary abdominal operations performed because of a mistaken diagnosis. I feel that the above brief article is timely, for we must not forget that the urological tract from the kidneys to the bladder covers the entire abdominal region and must be reckoned with in all abdominal complaints.

---

## SURGERY

GEORGE H. BUNCH, M.D., *Editor*  
Columbia, S. C.

### VARICOSE VEINS OF THE LEG

Varicose veins occur in dependent portions of the body where the tissues are loose in texture and do not give adequate support to the perpendicular column of blood extending upward toward the heart. Hemorrhoids are the most common and perhaps the most troublesome varicosities. Eversion, bleeding, thrombosis, and gangrene are complications in them that demand surgical relief. Varicocele by the irritation and drag of the distended veins in the scrotum tends to make a psycho-neurotic of the patient. Gynecologists say that varicosities in the broad ligaments are causes of backache and pelvic distress on standing.

The upright position, constriction about the extremity, pregnancy, pelvic tumor or anything impeding or obstructing venous circulation causes venous stasis and predisposes to varicosity of the leg. Normal veins have a muscular tone which keeps the blood at an even pressure and encourages circulation. Phlebitis injures and weakens the vein, impairs the valves and causes stasis, thrombosis and varicosity. Rhythmic contraction of the muscles in walking aids venous circulation. Prolonged standing causes stasis. Varicose veins are common in the legs of street car motormen.

Passive congestion from varicose veins causes swelling of the ankles often with in-

dolent ulceration and chronic infection of the skin and superficial tissue. The condition is apt to be progressive and to result in more or less complete disability.

The treatment of varicose veins of the leg has heretofore consisted of the palliative measure of support by elastic stocking or bandage put on in bed before arising and taken off in bed after retiring.

Application of Unna's paste and strapping to be changed every two weeks is an effective way of treating varicose eczema and ulcers. The radical treatment consists in the ligation of the internal saphenous vein just before it enters the femoral and the stripping and removal of as many of the superficial veins of the leg as possible by multiple oblique incisions extending almost to the ankle. These veins are outside the deep fascia and become varicose because they are poorly supported. They may be readily removed but the operation is tedious and, because of thrombosis and embolism, not entirely without danger. Two or three weeks of elevation and rest of the limb are needed for proper healing of the wounds. Before operation is done the deep veins must be known to be unobstructed and of sufficient size to maintain venous circulation. The principle of all treatment, whether palliative or radical, consists in the transference of the venous circulation from the superficial to the deep veins, and one must remember that varicosities in the superficial veins may be the result of thrombosis or obstruction in the deep veins. Patency of the deep veins is determined by the Trendelenburg test which is made by digitally compressing the saphenous vein at its junction with the femoral at the fossa ovalis, after the superficial veins have been emptied by elevating the leg. When the patient stands with the long saphenous still compressed the veins of the leg and thigh should fill slowly from the periphery.

Low shoes, short skirts, and transparent hose have made scars from operation for varicose veins particularly unsightly and objectionable to the modern woman; so that she welcomes the new method of curing varices by the injection of substances into the vein that obliterate it by coagulation thrombosis

or, when given in hypertonic solution, by irritation or even destruction of the intima. The treatment is ambulatory and if properly given is practically without danger. Available statistics show that in 14,000 injections there have been 4 deaths from pulmonary embolism, a lower incidence than from operation. Linser reports 6,000 injections of 20 per cent sodium chloride solution. Noble, a German, has given 3,000 injections of 50 per cent dextrose. Sicard of France uses 20 per cent to 40 per cent sodium salicylate, solution. McPheeters of Minneapolis, in *Surgery, Gynecology and Obstetrics* (Oct., 1927) reports 180 injections of 20 per cent sodium chloride solution and thinks this treatment superior to others, operative or otherwise. He stresses the necessity of getting the solution into the vein itself and not into the tissues. He concludes with the significant statement, "The results are so uniformly satisfactory, so easily accomplished, and so little risk to life is entailed, that I believe surgery for the treatment of varicose veins, other than in a few selected cases, will soon be a thing of the past."

---

## PERIODIC EXAMINATIONS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*  
High Point, N. C.

### PERIODIC EXAMINATIONS OF PHYSICIANS

The movement towards periodic health examinations is steadily gaining momentum. Especially gratifying now is the increasing tendency of physicians to recognize their own personal need of having these examinations. Doctors as a class make bad patients—"Physician heal thyself" contains almost as much ironical truth today as at any time, but the light is dawning. We have now given health examinations personally to 39 physicians, despite the doctor's unwillingness to take care of himself. Moreover, a considerable number of those examined have appeared not only grateful for the examination, but determined to correct, so far as possible, the troubles found. We encountered an interesting experience along this line this very day that we are writing these words. Seventeen days ago we examined a physician in a mountain village about 95 miles from our present location. We found him suffering from overwork, prolonged loss of sleep, and a hyper-



tension of a degree quite unsuspected by him (systolic pressure 220), as well as pyorrhea and number of minor defects. We urged him to get away for a rest, dental treatment, etc. We were delighted to meet him and his wife this morning in the hotel where we are staying, and when he remarked simply, "I'm taking your advice," we felt that here was a case well illustrating the value of a periodic health examination. It is too soon to assume definite improvement, despite the fact that his systolic pressure dropped over 50 millimeters, for he has an unstable pressure that shows wide fluctuations, and since the sharp drop it has risen again, though never to its original level, so far as we know.

Our Life Extension unit has covered 12 of the Appalachian counties of North Carolina this summer, and the response to our work has far exceeded our expectations.

One of the most interesting phases of periodic health examination work is the constantly recurring element of surprise. We are no longer surprised that nobody is perfectly healthy, for perfection is as unattainable in physiology as in any other field; but the number of severe conditions discovered in persons who consider themselves healthy for all practical purposes—often among physicians themselves—is little short of astounding. Rather obviously diseased gall-bladders, appendices, severe hypertension, toxic goiters, active tuberculosis, etc., are among our findings. Yet, after all, did not the world war teach us this very lesson with regard to our young adult males? It is so easy to forget, but such lapses of memory spell death and destruction to our people, and we must never let up, but wage incessant war against the wholesale destroyers of human life.

## OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville, Va.

### THE USE OF PITUITRIN IN DELIVERY

In considering any subject in the study and practice of obstetrics the object should be kept in mind of safely delivering the mother of a live baby and doing as little damage to mother and baby as possible in the process. A number of the leading men in the field of obstetrics and gynecology say that apparently 61 per cent of the morbidity

in women who have borne children could have been prevented had they received proper service during the period of pregnancy, delivery, lying-in period, through the period of involution and return to proper position of the uterus. Evidence of this we observe in the study of symptoms of women who have had children. This fact should stir us up with an enthusiasm to study pregnant women more accurately and carefully and how to help them to come through the experience in good physical condition. With all of these things in mind we want to discuss frankly, and as best we can, with an open mind, the use of pituitrin in obstetrics.

In discussing the use of pituitrin with physicians I find a good many of them are using it in the second stage of labor. Many of these men have never had a chance to study the action of pituitrin, recording it on paper, and seeing the violent and continuous contractions which are produced on the uterine muscles. These men say that apparently it is a good thing to use 10 or 15 m. of it when the cervix is completely dilated and there seems to be room in the vagina for the passage of the baby. They say it saves time to give this in the muscles and in a few minutes the baby is born, "and if it will do it, why not?", they say. If this were all it would be a fine procedure, but observe other results: first, the cervix is usually badly lacerated; second, the sphincter vaginae and the levator ani muscles are torn and other soft structures in the vagina are more or less ripped loose from their normal positions; and, frequently, a good deal of damage is done to the posterior wall of the bladder and its supporting tissues. Many times these conditions are not discovered—often not looked for—the cervix is not repaired and neither is the vagina; the patient develops a rectocele, cystocele, profuse leucorrhea and a first to third degree prolapse. The sudden expulsion of the baby through a tight-fitting passage-way out into the external world first produces extreme pressure on the brain, and then sudden relaxation which may cause rupture of the blood vessels in the brain, resulting either often in some form of central nervous disturbances or death of the baby. *Pituitrin is a valuable agent, but I do not use it under any condition except where I have a consultant and he is able to convince me that, by*



using a *MINUTE* dose we may be able to produce results in the *SECOND STAGE* of labor. However, I think better results can be obtained by other methods of delivery, which we will not now discuss, than by putting something into the circulation whose action we cannot control.

In the third stage of labor pituitrin is invaluable. I think that more men in the profession should use it in this stage and study their results, comparing, say, 100 or 200 cases where nothing is used with an equal number in which pituitrin is used. The use of 15 or 30 m. of pituitrin immediately after baby is delivered seems to produce very fine results. Dr. R. A. Scott comes to the following conclusion:

"1. It definitely shortened the third stage of labor.

2. It lessened the amount of blood lost in the third stage of labor, both in spontaneous and operative deliveries.

3. It lessened the number of cases of post partum hemorrhage.

4. It diminished the frequency of retained placenta due to constriction ring."

I find that what Dr. Scott says is true, so I use it routinely now. After the placenta is expelled I find the uterus is hard, well contracted, that there is no hemorrhage except just a normal discharge, that it is easy to examine the cervix to see if it is lacerated or not, and if it is lacerated it can be repaired, without any loss of blood; then, when the repair is completed, the cervix can be let loose and the uterus resumes a good position in the pelvis. Another thing that strikes me as good is that it prevents accumulation of blood in the uterine cavity, thus reducing the chances of subinvolution and infection.

In discussing the use of pituitrin this way it is hoped that the profession will make a study, observing accurately the action of pituitrin in this connection, and as they have time write us about it so that we may discuss it frankly in this Department. Be sure to remember our objective as outlined in the

first paragraph of this editorial. If we will do this we will make progress and it will be a great help to our patients in this most important field.

TONSILS are like people; their appearance is more deceptive than their actions. The most absurd part of the fallacy is that many physicians and most school nurses endeavor to answer the question entirely by looking at the tonsils, when the truth of the matter is that the specialist depends largely on the history of their actions. I feel that in making the diagnosis of diseased tonsils, the history of the case is of first importance, the physical appearance of the tonsils secondary. Again, having decided that the tonsils are diseased, they should not be removed until the patient has had a careful general examination. In other words, a diagnosis of diseased tonsils does not mean an operation until we have excluded all other conditions that could be responsible for the symptoms.—Cummings, in *Med. Jour. and Record*.

MANY PHYSICIANS are being asked about the composition and value of Ovaltine, a so-called food preparation widely advertised under claims that belong in the patent medicine field. As a matter of fact a glass of good milk has more calories than the average recommended dose of Ovaltine. Its property of inducing sleep is similar to that of other warm drinks taken before retiring. Ovaltine is just another of those preparations that gains popularity and is sold as a direct result of extravagant advertising.—*Jour. Indiana State Med. Assoc.*

ALPHA LOBELIN is a definite stimulant to the respiratory center. Stimulation is confined not to that center alone, but affects the associated medullary centers in a like degree. The toxicity of the drug is so great that its extensive clinical use is inadvisable if not actually dangerous. — Marshall, *Arch. Int. Med.*, August.

## Miscellany

### THE EXPERIMENT ON SHORTER HOURS IN A RICHMOND SCHOOL

To the Superintendent of the Richmond Public Schools, to the Chairman and Members of the Board of Trustees.

Gentlemen:

You recall that on March 11, 1927, in response to a request from the Parent-Teacher Association of the Ginter Park School you appointed a committee consisting of four physicians, two mothers and one teacher to investigate the relation of shorter hours to the health of children in the first three grades of school. The committee, securing from your superintendent the use of the William Fox School as a control for their experiment in the Ginter Park School, decided to use the following standards of measurements in both schools: weights and measures, school records, teachers' observations, mothers' observations—these observations to be interpreted and evaluated by the medical members of the committee.

The experiment started on April 1, 1927, with the shortening of the hours in the first three grades of the Ginter Park School, children in the first and second grades being dismissed at twelve-thirty o'clock, children in the third grade at two. William Fox School, the control, remained under the usual closing hours.<sup>1</sup>

[The Committee]

Dr. St. George T. Grinnan, Chairman  
Dr. J. K. Hall  
Dr. Geo. Preston  
Dr. N. T. Ennett  
Mrs. L. L. Williams, Jr.  
Mrs. Wyndham B. Blanton  
Miss Irene Briggs

We feel it necessary to explain that the William Fox School was selected as the control school because economically it most resembled the Ginter Park School. However, the William Fox School is a city school, serv-

ing a relatively congested district, many of its children living near enough to run home for a hot lunch at noon, whereas Ginter Park is a suburban school drawing children from a large area of lawns and ample play space. These facts give to each school different advantages.

It must be stated further that the committee had to confine its studies to the first three grades in school and could make no effort to follow up the children who passed beyond this limit each half year. This fact—that experiments had to be made on a constantly changing group of children, new ones entering the first grade, old ones leaving the third grade—has no doubt influenced the results of our experiment.

Moreover, as is well known, in the collection of statistics by a group of persons who lack time and funds, error is bound to be present. \* \* \* \* \*

In this our first report we are presenting our material under six headings, each we believe having a definite relation to child health. These headings are: 1, Hot Mid-day Meal; 2, Weight; 3, Fatigue; 4, Rest and Free Afternoon; 5, Absence on account of own illness; 6, Deportment.

1. *Hot Mid-day Meal*—Observations by parents (parents' questionnaire): "Does your child have a hot mid-day meal?" was asked on a questionnaire sent to the parents of the children in the first three grades of the Ginter Park and William Fox Schools at the beginning of the experiment when both schools were operating under longer hours. Information resulting showed that in both schools less than half these children had a hot mid-day meal, in the Ginter Park School 39 per cent, in the William Fox School, 46 per cent.

A follow-up questionnaire was sent to the parents of the Ginter Park School after it had been operating under shorter hours for two months. The answers showed that the number of children having a hot mid-day meal had almost doubled. Seventy-five per cent now had hot mid-day meals.

1. Throughout this report *Shorter Hours* means 8:45 to 12:30 in first and second grades and 8:45 to 2:00 in third grade.

*Longer Hours* means 8:45 to 1:30 in 1 L; 8:45 to 1:45 in 1 H; 8:45 to 2:00 in second grade; 8:45 to 2:45 in third grade.

In January of the next year the same question was again asked in both schools, "Does your child have a hot mid-day meal?" In the Ginter Park School under the shorter hours 83 per cent now had a hot mid-day meal. In the William Fox School under the longer hours 57 per cent had a hot mid-day meal.

#### HOT MID-DAY MEAL

Ginter Park		January, 1928	
March, 1927	May, 1927	under shorter	hours
under longer	under shorter	hours	83%
hours	hours		
39%	75%		
William Fox		57%	
under longer	hours	under longer	hours
46%			

#### 2. Weights and Measures (School records):

In a study of 220 pupils in the two schools—106 in Ginter Park, 114 in William Fox—the mean gain in weight per pupil in the Ginter Park School under shorter hours was 6.55 pounds and in the William Fox School under longer hours was 5.92 pounds. The average gain per pupil in the above group was about three-fifths of a pound more in the Ginter Park School under shorter hours than in the William Fox School under longer hours. This group includes *only* the pupils who were weighed in *March, 1927*, and again in *March, 1928*, and does not include the pupils who entered the experiment after *March, 1927*, or left the experiment before *March, 1928*. But when we consider the 521 children—259 in Ginter Park, 262 in William Fox—total number who were in the study group at any time, the mean gain in weight per pupil in the Ginter Park School was 5.12 pounds and in the William Fox School was 3.81 pounds. The average gain per pupil was 1.31 pounds more in the Ginter Park School than in the William Fox School. In the Ginter Park School under shorter hours there was a 34.3 per cent greater gain in weight per pupil than in the William Fox School under longer hours.

#### 3. Fatigue—Observations by parents (parents' questionnaire):

"Does your child appear tired on his return from school?" was asked in the questionnaire sent out to parents when both schools had the longer hours. In the Ginter Park School 56 per cent answered "yes."

A follow-up questionnaire was sent to the

parents of the Ginter Park School after it had been operating under the shorter hours two months. The number of children tired had dropped from 56 per cent to 6 per cent.

The following January the question was repeated, "Does your child appear tired on his return from school?" In the Ginter Park School under the shorter hours the number of children tired was 14 per cent. In the William Fox School under the longer hours the number of children tired was 31 per cent.

#### Children Reported by Parents as Tired

<i>Ginter Park</i>			
March, 1927	May, 1927	January, 1928	
under longer	under shorter	under shorter	
hours	hours	hours	
56%	6%	14%	
<i>William Fox</i>			
under longer	hours	under	longer hours
27%		31%	

#### Fatigue—Observations by teachers (fatigue records):

The teachers of the first three grades in the Ginter Park and William Fox Schools were asked to keep daily records of fatigue on each child in their care. Written instructions to them from the medical members of the committee said, "In order that all teachers may judge fatigue on the same basis, we are enumerating below certain symptoms which we regard as manifestations of fatigue. A child who shows one or more of the following symptoms should be considered fatigued:

phlegmatic child	drowsiness
	apathy
	listlessness
	lack of interest
highstrung child	inattention
	restlessness
	irritability
	distractibility

Make observations near the end of each school day."

Before the hours were shortened, following these directions the teachers in the Ginter Park School reported 52 per cent of their children fatigued. Two months after the hours were shortened they reported 19 per cent of their children fatigued. At this same time the teachers in the William Fox School reported 63.5 per cent of their children fatigued.

This school year the number of pupils reported fatigued in the Ginter Park School



under the shorter hours has varied from 13 per cent in January to 8.8 per cent in March. In the William Fox School under the longer hours they have varied from 49 per cent in January to 34 per cent in March.

*Number Children Reported by Parents as Fatigued*

Table I  
Ginter Park

March, 1927 longer hours 52%	May, 1927 shorter hours 19%
------------------------------------	-----------------------------------

Table II

Ginter Park shorter hours		
May, 1927 19%	Jan., 1928 13%	March, 1928 8.8%
William Fox longer hours		
May, 1927 63.5%	Jan., 1928 49%	March, 1928 34%

In the Ginter Park School before the hours were shortened 31.7 per cent of the school days were fatigue days. Fatigue day is used to mean a day on which a child is fatigued at the time of observation. Two months after the hours were shortened the fatigue days had dropped to 2.6 per cent. In the William Fox School in June, 1927, under the longer hours 18 per cent of the school days were fatigue days.

This school year the number of fatigue days in the Ginter Park School under the shorter hours has varied from 1.2 per cent in January to 6-10 of 1 per cent in March. In the William Fox School under the longer hours the fatigue days have varied from 11.2 in January to 11.9 per cent in March.

*Number Fatigue Days Reported by Teachers*

Table I  
Ginter Park

March, 1927 longer hours 31.7%	May, 1927 shorter hours 2.6%
--------------------------------------	------------------------------------

Table II

Ginter Park shorter hours		
May, 1927 2.6%	Jan., 1928 1.2%	March, 1928 6/10 of 1%
William Fox longer hours		
May, 1927 18%	Jan., 1928 11.2%	March, 1928 11.9%

*5. Absence on Account of Own Illness* (school records):

The committee decided in the beginning of the experiment that should there be an epidemic of measles in either school absences due to the epidemic should not be counted against that school. There were 172 cases of

measles in the Ginter Park School and 33 cases in the William Fox School. The quarantine for measles is fourteen days.

In the Ginter Park School there was 67-100 of 1 per cent pupil day absences on account of own illness other than measles. In the William Fox School there was 4.7 per cent pupil day absences on account of own illness other than measles. There were 225 actual pupil days lost in the Ginter Park School for absence on account of own illness other than measles, and 1,677 actual pupil days lost in the William Fox School for absence on account of own illness other than measles. *There was 600 per cent greater loss of time for absence on account of own illness other than measles in the William Fox School under longer hours than in the Ginter Park School under shorter hours.*

*4. Rest and Free Afternoon*—Observations by parents (parents' questionnaire):

One of the questionnaires sent to the parents carried the question, "Does your child have a rest during the day?" In the Ginter Park School under the shorter hours 45 per cent said "yes." In the William Fox School under the longer hours 25 per cent said "yes." Ninety-six per cent in each school stated their children were free to spend the afternoon out of doors.

*Ginter Park*

Rest under shorter hours 45%	Free afternoon under shorter hours 96%
------------------------------------	----------------------------------------------

*William Fox*

Rest under longer hours 25%	Free afternoon under longer hours 96%
-----------------------------------	---------------------------------------------

*6. Deportment*—Observations by teachers (school records):

The committee has studied the school records of deportment for the term ending Jan. 30, 1927, which was prior to the experiment, and also for June 8, 1927, and Jan. 31, 1928. The Ginter Park School leads in the number of children receiving A on deportment for all three of these terms. When the longer hours were in effect throughout the term at both schools Ginter Park led in the number of A's by 6 per cent. When the shorter hours were in effect in Ginter Park School for part of the term and the longer hours were in effect throughout the term at William Fox, Ginter Park led by 11.6 per cent. When the shorter hours were in effect throughout the term in



Ginter Park School and the longer hours were in effect throughout the term at William Fox, Ginter Park led by 18.5 per cent.

#### *Record of Deportment*

Term ending Jan. 30, 1927

	%A	%B	%C
Ginter Park _____	80.2%	19.7%	0
William Fox _____	74 %	23.5%	2%

Term ending June 8, 1927

	%A	%B	%C
Ginter Park _____	81.8%	17 %	8-10 of 1%
William Fox _____	70.6%	25.8%	3.5%

Term ending Jan. 31, 1928

	%A	%B	%C
Ginter Park _____	89 %	10 %	9-10 of 1%
William Fox _____	70.5%	27.9%	1.5%

#### *Parents' Questionnaire:*

A questionnaire sent to the parents of the Ginter Park School in March, 1928, carried the single question, "Do you think the shorter hours are of benefit to your child?" The answers were as follows: 3.7 per cent, indefinite; 7.8 per cent, no; 88.3 per cent, yes.

#### **SUMMARY**

1. The number of children getting a hot mid-day meal is doubled, under shorter hours.

2. In the study of 220 children who were under observation for a whole year there is a three-fifths of a pound greater increase in weight per pupil in the school under shorter hours than in the school under longer hours. In the study of the entire experiment group (521 pupils) there is a 34.3 per cent greater increase in weight per pupil in the school under shorter hours than in the school under longer hours.

3. The recorded observations of teachers and parents indicate that there is much less fatigue in the school under shorter hours.

4. The number of children getting a rest is 80 per cent greater in the school under shorter hours than in the school under longer hours.

5. There was 600 per cent greater loss of time for absence on account of own illness other than measles in the school under longer hours than in the school under shorter hours.

6. The study of deportment records shows that the school under longer hours lost 5.2 per cent A's. The school under shorter hours gained 10.9 per cent A's.

7. 88.3 per cent of the parents in the school under shorter hours said the shorter hours

had proved beneficial to their children.

#### **CONCLUSIONS**

While the committee cannot affirm that their findings are absolutely conclusive, they hold them conclusive enough to justify a belief that the establishment of shorter hours in the first three grades in the Richmond public schools would be beneficial to the health of the children. They therefore recommend:

1. That shorter hours be continued at the Ginter Park School.

2. That shorter hours be extended to other schools in the city.

Respectfully submitted,  
St. George T. Grinnan, M.D.,  
Chairman,

James K. Hall,  
N. Thos. Ennett,  
Gertrude Robeson Williams,  
Irene E. Briggs,  
Natalie McFaden Blanton,  
Secretary.

Richmond, Virginia,  
April 25, 1928.

To the Honorable School Board,  
City of Richmond.

Gentlemen:

The comments below are an attempt on the part of the medical members of the committee to evaluate, from the medical standpoint, certain findings presented in the report of the "Shorter Hour Experiment."

The points considered are:

1. Weight
2. Fatigue
3. Absences due to illness other than measles
4. Deportment

1. Weight—Growth and physical development, especially in the young, depend largely upon the regular eating of proper food. Young children are easily distracted and it is a fact, therefore, that they eat better in their own homes, as a rule, than elsewhere. Under the supervision of its own mother, in its own home, the child ordinarily has the opportunity to have the food best suited to its requirements. It is not surprising, therefore, to discover from the table dealing with the weight of the child that those children who are on the shorter hours and who are, in consequence of that fact, able to have a hot mid-day meal in their own homes have made a gain in weight one-third greater than the children in

the control school under the longer hours who have not had the opportunity for a hot mid-day meal in their own homes. Another possible factor in the matter of this relatively greater gain in weight is the opportunity for rest afforded, as is shown by the statement that 80 per cent more children have rest under the shorter hours than under the longer hours.

2. Fatigue—It is a matter of universal observation that the hungry animal is restless. It is also true that suitable food is quieting to the nervous system as well as upbuilding to the body. Most lower animals become quiet, and many of them fall asleep, after having been generously fed. It is not surprising, therefore, to observe from the table which refers to fatigue, which table records the observations of the teacher and the mother, to find that the manifestations of fatigue have been much less prominent in those children who are kept in school a shorter number of hours and who have also a hot mid-day meal at home. And we would also add that the opinion of the medical members of the committee who made observations in the class rooms, while not reduced to figures, tends to confirm the observations of the teacher and the mother.

3. Absences due to illness other than measles—Frankly the medical members of the committee were astounded at the figures in this table. According to this table there were six times as many absences due to illness other than measles in the school under the longer hours than there were in the school under shorter hours.

The first thought which comes to mind is the possibility of error in the figures. No error has been found. The next thought—is this the normal relationship between these two schools, in other words, what was the relationship prior to the experiment? This question cannot be answered because there are no figures available. The third question to arise would be, did the control school experience an epidemic, mumps for instance or some other disease, not affecting the experimental school? No such epidemic occurred. The fourth question would probably be, what relationship has malnutrition on minor illnesses and attendance at school? Ginter Park has 4.4 per cent children classified as suffering from malnutrition and Fox has 8.1 per cent children so classified. That there

is a definite relationship between malnutrition and minor illnesses is a generally accepted fact by the medical profession. But after all, the medical members of the committee feel that the above figures, at present, remain unexplained.

4. Deportment—Deportment has to do with the individual's attitude towards himself as well as with his attitude towards others. Deportment, or conduct, is about the best manifestation available for the basis of an opinion about an individual's happiness and efficiency. Medical men are coming more and more definitely to the conclusion that good health and good behavior go hand in hand. The table relating to deportment indicates conclusively that the deportment of the children under the shorter hours improved with reference to their former deportment and that it improved also with reference to the deportment of the children in the control school under the longer hours.

Respectfully submitted,  
St. Geo. T. Grinnan, M.D.,  
Chairman,  
Jas. K. Hall, M.D.,  
N. Thos. Ennett, M.D.,  
Committee.

#### RICHMOND PUBLIC SCHOOLS

Ginter Park School, Office of Principal

June 15, 1928.

Mr. A. H. Hill, Supt., Richmond Public Schools, Richmond, Va.

My Dear Mr. Hill:

In compliance with your request I wish to submit the following report on the shorter hours experiment as conducted in my school since April 1, 1927. This report merely gives the facts as observed by my teachers and myself in the class rooms. It gives the results and comparisons of tests given by the department of research. It also calls attention to the per cent of promotions as compared with other years.

The time schedule for the first four grades (1L, 1H, 2L, 2H) was from 8:45 to 12:30 with a 25-minute recess from 10:35 to 11:00. The schedule for the 3L and 3H grades was from 8:45 to 2:00 with a 15-minute recess from 10:45 to 11:00 and a 30-minute recess from 12:30 to 1:00.

Naturally we were all interested in determining the progress made by the pupils with the abbreviated schedules. With this in view a standard achievement test was given to the

4L grade. This grade had the shorter hours from the beginning of the experiment up to February 1, 1928. The standard for the 4L grade from the time the test was given is 4.3. Our grade made an average of 4.7, or four months above the standard and five months ahead of a similar grade at Nathaniel Bacon School. Nathaniel Bacon was the only school for which the department of research had figures for comparison in these grades.

A 2H grade was given a Pressy attainment test. This grade had the shorter hours from the beginning of the experiment through May, 1928. The standard for this grade is 49. Our grade averaged 59, or 10 points above the standard. There were no records from other Richmond schools to compare with.

A 2H grade was given a Pressy attainment test. Our grade averaged 63.5. Two similar grades at the City Normal School averaged 50.7 and 51, respectively.

The amount of reading done proved to be quite satisfactory. Besides doing a good deal of reading in books from the room library, the A groups averaged  $6\frac{1}{2}$  books read while the B groups averaged a little over 4 books.

The following shows the number of children in the grades under consideration, also the per cents of promotions for the past ten terms, beginning with June, 1923.

210 pupils	92.4%	promoted
222 "	96.1%	"
214 "	94.8%	"
219 "	93.3%	"
238 "	94.8%	"
237 "	93.0%	"
279 "	93.5%	"
264 "	95.0%	"
321 "	92.9%	"
326 "	97.0%	"

We had our highest per cent the present term. Out of 326 children there were only 15 failures, while six children made a double promotion.

During the winter our children suffered much from contagion. There were 172 cases of measles and a good deal of chicken pox. This shows that more than 50 per cent of the children affected by shorter hours lost time from school through measles alone. It was not until May 20 that the 1L grade had its first day of 100 per cent attendance this

term. All of this affected the deportment, fatigue, weight and promotions.

With 70 minutes cut from the schedule of the second grades, the teachers found it necessary to operate at a high tension all the time in order to get all of the work in. It was also found necessary to resort to the coaching of backward pupils after dismissal in order to keep them up with the grade. All three of the second grade teachers expressed a desire to have another half hour's time added to their schedules. This would allow ample time for a coach period and an extra ten minutes for a recess each day. The first and third grades apparently have sufficient time to cover their work satisfactorily.

I wish to recommend that the desired changes be made in the second grades and that the experiment be continued for another year.

Respectfully submitted,  
(Signed) Alvin L. Thoms,  
Principal.

#### ACTION OF THE BOARD

It was suggested by the superintendent, moved and adopted that for the ensuing year 1L and 1H grades of all schools, white and colored, shall be dismissed at 12:30; that at Ginter Park School 2L and 2H shall be dismissed at 1 o'clock; that 3L and 3H at Ginter Park be dismissed at 2 o'clock.

---

AN EDITORIAL in the *New England Journal of Medicine* (June 28) concludes with: "The ultraviolet end of the spectrum is as valuable as it is fashionable, but it deserves to be treated with respect in the three coming months. Nature knows how much her children can stand, and has appropriately pigmented those who are destined to walk, naked and unashamed, in the heat of the noonday sun."

---

#### DUE NOTICE

*The farm problem, as reported by a western Texas paper*

"Positively no more baptizing in my pasture. Twice in the last week my gates have been left open by Christian people, and I can't afford to chase cattle over three counties just to save a few sinners."

---



## REVIEW OF RECENT BOOKS

INTERNATIONAL CLINICS: A Quarterly, by Henry W. Cattell, A.M., M.D., Volume 2. Thirty-eighth Series. Philadelphia and London. J. B. Lippincott Co., 1928.

Among the contributors to this volume are Sir Humphrey Rolleston; Dr. L. F. Barker; Dr. A. McPhedran; Dr. Judson Daland; Dr. J. J. Walsh; six distinguished Germans—Professor Loos and Drs. Siegmund, Weski, Moro, Lange and von Zumbusch; Dr. E. P. Cumberbatch and Dr. F. E. Saxby Willis, of London, and Dr. D. M. Lyon, of Edinburgh.

Dr. Chas. Greene Cumston, of Geneva, writes on "The treatment of the great pox in its early beginnings."

Other subjects of special interest are: "The hundred and fiftieth volume of international clinics," "Changing aspects of medicine in America," "Reminiscences of an editor," "Venereal diseases and marriage consent," "Diabetes mellitus not a progressive disease," "First three years of life," "Death from the standpoint of the physiologist," and "The economic basis of medical charges."

THE DUODENUM: MEDICAL, RADIOLOGIC AND SURGICAL STUDIES, by Pierre Duval, Jean Charles Roux and Henri Beclere of the Surgical Clinic, Faculty of Medicine, Paris. Translated by E. P. Quain, M.D. St. Louis. The C. V. Mosby Co., 1928. \$5.00.

For the number of decades which we have known that in the duodenum most of digestion takes place, interest has centered more and more on this segment of the canal whenever patients failed to negotiate their "three-a-day" in comfort.

The translator is greatly impressed with the accounts given of essential pathology in the duodenum, other than ulcer.

The chapters are six: the duodenum in calculous cholecystitis, essential and stenosing periduodenitis, chronic compression by mesenteric pedicle, duodeno-jejunosotomy, radiologic signs of ulcer, and intoxication in duodenal retention.

We welcome anything and everything

which holds out promise of helping in the solution of "dyspepsia" problems. The admirable work of these distinguished Frenchmen has brought to light much of value, and the translator has rendered their account into vivid English, which, with the help of the excellent illustrations, delivers the lessons to the reader.

GOITER PREVENTION AND THYROID PROTECTION, by Israel Bram, M.D., Author of "Goiter; Non-Surgical Types and Treatment"; Medical Director, Bram Goiter Institute, Upland, Pa.; formerly Instructor in Clinical Medicine, Jefferson Medical College, Philadelphia. Illustrated. Philadelphia, F. A. Davis Co., 1928. \$3.50.

The author is much impressed with the importance of the thyroid in the economy, being willing to say that a man is as old as his thyroid. "All our thoughts and actions are the result of intercellular chemical change. The ductless glands are the regulators of this exchange of chemicals with the thyroid at the helm." Now we know who won the war!

One does not need to subscribe to all that enthusiasm prompts the author to say, to realize that this subject is one of immense importance.

There are chapters on: what is the thyroid gland?; the thyroid in health, in disease; what is goiter?; varieties, causes of simple goiter, goiter belts and endemic goiter, prevention, iodine *vs.* goiter: facts and fallacies, treatment.

Part II describes exophthalmic goiter, its cause, prevention and treatment. Part III's chapters are headed: eating and the thyroid, sleep and the thyroid, thinking and the thyroid; and there is an appendix on other ductless glands.

The book is intended primarily for the layman, and will have a salutary effect, provided it does not produce goiter phobias. It would be of interest to know what evidence the author has that abstinence from condiments will reduce the incidence of thyroid disease.



**INCOMPATIBILITY**—in Prescriptions—by Santosh Kumar Mukherji, M.B. Editor, Indian Medical Record, Author of "Elements of Endocrinology," and "Infantile Cirrhosis of the Liver. Calcutta, Rai Saheb B. N. Mukherji & Son.

The coming out of a handy volume on Incompatibility from the pen of an author of such note would suggest that Indian doctors prescribe more drugs than we in this country. The reviewer inclines to the idea that the explanation lies, rather, in the enormous extent to which we have fallen into the bad habit of prescribing ready-made preparations in the therapeutics of which we have been instructed by a dapper salesman; and that the excellent practice of writing prescriptions for combining reliable official drugs is still the rule in India.

The once familiar physical, chemical and therapeutic incompatibilities are recalled to mind, tables of commoner illustrations compiled, and details discussed.

The book is quite elementary, as it is intended to be; but, since the feature of practice with which it deals has been so much neglected—at least in this country—its subject-matter could be studied with profit by practically all of us.

**HAY-FEVER AND ASTHMA. Their Cause Prevention and Treatment,** by Ray M. Balyeat, M.A., M.D., F.A.C.P., Instructor in Medicine and Lecturer on Allergic Diseases in the University of Oklahoma Medical School, Director of the Balyeat Hay-Fever and Asthma Clinic, Oklahoma city. Illustrated with 76 engravings including 2 in colors. Second edition, revised and enlarged. Philadelphia, F. A. Davis Company, 1928. \$3.50.

The author aims to make the book understandable to the average lay reader. He hopes, too, to help toward regaining the confidence of doctors and patients, whose disappointments he attributes to "shot-gun" methods in the use of pollen extracts.

If it be true that "about seven per cent of the population of the United States are sufferers from hay-fever, asthma, or allied conditions," surely it behooves all doctors to learn as much about these conditions as they possibly can.

History, prevalence, causes, hereditary influences, relation of plants, physical and chemical nature of pollen, relation of animals and flowers to hay-fever and asthma, face

powders, etc., symptoms, bacterial infections, diagnosis and differential diagnosis, resorts, details of treatment, prevention, specific treatment, palliation, local and operative treatment, climate and related diseases are given one or more chapters.

Much is to be hoped from the growing custom of writing medical books for the laity. Often in the course of such an enterprise a writer will find he, himself, is not very clear on some phase; so it makes for clearness and modesty.

The difficult and involved subject is covered in a helpful way; and if the reader-patient gets discouraged at the delays and disappointments recorded, he can derive some comfort from learning that there are so many of him.

**PRINCIPLES OF MEDICAL TREATMENT,** by George Cheever Shattuck, M.D., A.M., Assistant Professor of Tropical Medicine, Harvard Medical School. Sixth edition, revised and enlarged. Cambridge, Harvard University, Press, 1928.

It is better to have a poor reason for doing anything than to have no reason at all; for when one attempts to reason he shows his appreciation of rational processes, that empiricism does not satisfy him.

This little book on principles follows the plan of its former editions in not only telling what to do, but why.

The chapters on asthma, syphilis, anemia, endocrine disorders and vaccine therapy are new.

The author and his associates have made a guide to rational therapy which will prove of inestimable value to the student and the young doctor just out on his own, and for which we older members could well discard brochures and catalogues.

**NURSES, PATIENTS, AND POCKETBOOKS: A Study of the Economics of Nursing Conducted by the Committee on the Grading of Nursing Schools,** by May Ayres Burgess, Director. New York City, 1928. William Darrach, M.D., Chairman, 632 W. 168th Street, New York City.

The committee's work was devoted to "the study of ways and means for insuring an ample supply of nursing service adequate for the patient, at a price within his reach. This is a book for general reading. Certainly

it deals with a subject of not only acute interest, but of grave concern, to most of us.

It startles us to learn that, while in 1900 there were 90 graduate nurses for every 1,000 physicians, in 1920 this 90 nurses had become 1,029 to the 1,000 doctors. "At the present time there are probably about three nurses for every two physicians," and it is estimated that "37 years from now there will be nine or ten nurses for every two physicians."

Of 353 registries, 325 do not want more nurses in their cities. Apparently there is no shortage of public health nurses. There is a chapter on, "Are Physicians Satisfied?", in which it is shown that 65 per cent of doctors answering desired first that a nurse should have skill in giving general care and making the patient comfortable. 84 per cent preferred graduate nurses. For 73 per cent of patients it was harder to pay a good nurse than to get one: more than half of patients are interested in group and hourly nursing.

Typically, it is said, the private duty nurse's months are divided: 7—pay work; 1—charity; 4—rest or waiting for work.

This is far from being even an outline of the book. It touches only a few high spots. There is a page on "How to read this book." It is hoped that doctors and hospital executives will read this page first, then the remaining ones.

RECENT ADVANCES IN CHEMISTRY IN RELATION TO MEDICAL PRACTICE, Lectures of the San Diego Academy of Medicine, Series of 1927, by W. McKim Marriott, B.S., M.D., Dean and Professor of Pediatrics, Washington University School of Medicine; Physician-in-Chief, St. Louis Children's Hospital. Illustrated. St. Louis, The C. V. Mosby Company, 1928. \$2.50.

Against a back-ground of fundamental chemical considerations Dr. Marriott discusses acidosis and alkalosis, blood chemistry, foods and metabolism, and the endocrines. Fundamental conceptions are given at length and general principles stressed, on the assumption that knowledge of details will be acquired if interest is aroused.

Matters of such practical every-day importance as the management of phases of diabetes, nephritis, tetany and obesity are discussed—and reasons given.

In seven pages more information is given

on vitamins than may be obtained from all the advertising circulars.

The principles of dieting in health, in fever, in anemia, in diabetes, in nephritis, in pregnancy, in obesity, in pellagra and in infancy are set down.

In the lecture on the endocrines it is said, "there is perhaps no field of medicine in which fallacies have so exceeded facts as in that of endocrinology." The concluding paragraph is given in full: The accomplishments of endocrine therapy in the case of thyroid, pancreas, and parathyroid disturbances are little short of miraculous, but we should not be misled by these successes into the supposition that very many of the ills of mankind may be benefited by the administration of endocrine products or that any besides cretinism may be influenced by the feeding of pills containing organ extracts.

#### BOGUS DOCTOR SENTENCED FOR FRAUD

A "nature cure" practitioner, William Patrick Faulkner, whose previous occupation was stated to have been that of a carpenter, was found guilty at Marylebone Police Court, before Mr. Bingley, on July 16th, of obtaining two sums of money by false pretences from Ernest Rose, another carpenter, with intent to defraud, and was sentenced to three months' hard labor on each charge—six months in all.

It was alleged at a previous hearing that the two men entered into partnership in premises at Praed street, Paddington, in a "Nature cure establishment and sunray clinic," Rose stating that Faulkner claimed to have qualified as a doctor of medicine at King's College, London. Mr. Wallace, for the Director of Public Prosecutions, said that the charges against Faulkner related to 4 pounds sterling (about \$20) which he was alleged to have obtained from Rose to enable him to register his name with the General Medical Council, and to 8 pounds 8s., which Faulkner said he wanted for registering the premises with the London County Council. The prosecutor stated that the accused signed the partnership agreement as "William Faulkner, M.D.," and that a brass door-plate on the Praed street premises was inscribed: "Doctors Faulkner and Rose, Nature-Cure Practitioners and Manipulative Surgeons."

Evidence was given that the clinic was open for eight weeks or so, and that about ten people were treated by, according to Rose, Faulkner. Rose, answering Mr. Bingley, stated that hardly any of the persons treated paid. It was disclosed, in the course of the second day's hearing, that Faulkner had, on a previous occasion, been fined 20 pounds and ordered to pay ten guineas costs for falsely describing himself as a registered medical practitioner. The accused, giving evidence, said that he was a member of the "Nature Cure Practitioners' Association."

Mr. Wallace remarked upon the danger of run-ray treatment by unqualified people; one patient, he said, who paid the prisoner 6 pounds sterling and was treated on two or three or more occasions, was finally sent to hospital and found to be suffering from appendicitis. *If she had gone on attending the clinic much longer, he added, she would probably have ceased to require any treatment at all.*—British Medical Journal, July 28th.

## NEWS

### MEDICAL COLLEGE OF VIRGINIA OPENS 91ST SESSION

With the selection of 114 new students from approximately 1,500 applicants, the Medical College of Virginia opened its ninety-first session September 11, with the largest enrollment in the history of the institution, with many applicants still on the waiting list, hoping to be accepted should a vacancy occur.

The opening convocation of the session was held at noon on Wednesday, September 11th, with class work resuming at 2 o'clock that afternoon.

Additions to the faculty for the session are: Dr. H. Ernest Alderman, assistant in nervous and mental diseases; Dr. S. A. Anderson, Jr., associate in pediatrics; Miss Mildred Chanonhouse, dental nurse; Dr. A. B. Clark, instructor in genito-urinary surgery; Dr. Harry L. Denoon, Jr., assistant in surgery; Dr. E. N. Mason, assistant in dentistry; Mr. F. P. Pitts, associate in chemistry; Dr. F. G. Repass, assistant in dentistry; Mrs. Alice Barrett Rudd, instructor in English; Miss Ima F. Scott, instructor in dietetics; Dr. Fred G. Wampler, professor of preventive medicine, assistant professor of medicine, and director of out-patient department, and Dr. H. Hudnall Ware, Jr., instructor in obstetrics.

Faculty promotions for the session about to open are: Dr. Dudley C. Ashton, from instructor to associate in medicine; Dr. W. B. Blanton, from associate to assistant professor of medicine; Dr. A. S. Brinkley, from associate to assistant professor of surgery; Dr. R. B. Easley, from assistant to instructor in neurological surgery; Dr. B. F. Eckles, from associate in to assistant professor of surgery; Dr. C. A. Folkes, from assistant to associate in ophthalmology.

Dr. Thomas E. Hughes, from instructor to associate in otolaryngology; Dr. F. S. Johns from associate in to assistant professor of surgery; Dr. G. Paul LaRoque, from associate professor of surgery to professor of clinical surgery; Dr. F. W. Lewis, from instructor to associate in pediatrics; Dr. J. G. Lyerly, from associate in to associate professor of surgery; Dr. H. P. Mauck, from associate

in to assistant professor of surgery; Dr. W. A. McGee, from instructor to associate in pediatrics; Dr. Lewis C. Pusch, from associate in to assistant professor of pathology.

Dr. P. E. Schools, from instructor to associate in medicine; Dr. J. Asa Shield, from assistant to instructor in nervous and mental diseases; Dr. G. H. Snead, from assistant to instructor in otolaryngology; Dr. H. S. Stern, from associate in to assistant professor of pediatrics; Dr. E. H. Terrell, from associate in to associate professor of surgery.

Dr. R. W. Vaughan, from assistant to instructor in otolaryngology; Dr. E. U. Wallerstein, from instructor to associate in otolaryngology, and Dr. Carrington Williams, from associate in to assistant professor of surgery.

### HALL LIKES HIS FORD

Dr. James K. Hall, of Richmond, accompanied by his son Jim, drove in Monday in his new Ford roadster. He has a big Buick, and he has driven around a great deal in the Packard that belongs to his Westbrook Sanatorium, but he has forsaken them both for this new infant.

His infatuation for the little thing calls to mind that of a parent who, having a grown-up family that he has long thought to be complete, finds himself with another son or daughter. At the beginning and the end of every journey he stands off from the vehicle and gazes at it admiringly.

When he and his son left Chapel Hill Monday they took Dr. William MacNider home with them. Dr. MacNider has now gone on to Washington to study in the Surgeon General's library.—Chapel Hill *Weekly*.

### MEETING AMERICAN COLLEGE OF SURGEONS

The American College of Surgeons will hold the eighteenth Clinical Congress in Boston, October 8-12. Headquarters will be at the Statler Hotel and meetings will be held in the ballroom of the Copley-Plaza Hotel and Symphony Hall. The Hospital Standardization Conference will be held in morning and afternoon sessions in the ballroom of the Copley-Plaza Hotel Monday, Tuesday, Wednesday, and Thursday. An innovation



this year will be the commencement of the clinics in the Boston hospitals on Monday afternoon, continuing through the mornings and afternoons of the following four days. The total fare for the round trip will be one and one-half the ordinary first class one-way fare. A number of distinguished foreign guests of international reputation have signified their intention of attending. The chairman of the Boston Committee on Arrangements is Dr. Frederic J. Cotton.

THE MEDICAL EXAMINING BOARD OF VIRGINIA reports that graduates of sixteen schools of medicine and osteopathy appeared before it at its last session seeking licensure. The Medical College of Virginia furnished somewhat more than half of the total applicants (69 out of 113) and all of them passed the board. The report further shows that 6,428 individuals have been before the board for licenses to practice medicine since Jan. 1, 1885.

MECKLENBURG COUNTY MEDICAL SOCIETY meeting September 4, 1928, 8 p. m. Case Reports: "Tracheo - Esophageal Anomaly," Dr. T. C. Bost; "Fracture-Dislocation of Cervical Vertebra," Dr. J. S. Gaul. Papers: "Outline of the Proposed Medical Work in the City School of Charlotte," Dr. Thos. J. Sasser; "Intestinal Obstruction," Dr. R. B. McKnight.

DR. HAMILTON W. MCKAY AND DR. ROBERT W. MCKAY have formed a partnership for the practice of Urology and Genito-Urinary Surgery. Dr. Hamilton McKay was formerly a member of the Crowell Clinic and Dr. Robert McKay has been for a number of years resident surgeon of the Brady Urological Institute of Johns Hopkins Hospital. Offices are opened in the Professional Building, Charlotte.

THE NALLE CLINIC, Charlotte, have moved into their new home, 408 North Church street. Members are Drs. Brodie C. Nalle, Edward R. Hipp, Lucius G. Gage and George D. McGregor.

DR. E. W. HUNTER, of Sanford, N. C., had the misfortune to seriously injure a young man of Pittsboro in an automobile accident

August 30th. No blame is attached to the doctor, eye witnesses testifying that it was unavoidable.

DR. JOHN D. ROBINSON, Wallace, was an influential factor in the N. C. State Convention of the American Legion held in Charlotte August 27th-29th.

DR. JOHN JAMES, Danville, Va., died at Memorial hospital August 21st.

DR. A. R. GRAY, of Nokesville, Va., Medical College of Virginia, 1905, died at his home August 30th. Dr. Gray formerly lived at Wilkesboro, N. C., where he leaves a number of relatives.

DR. E. J. BUCHANAN, of Lexington, N. C., University of Maryland, 1892, died in a Charlotte hospital August 31st. Dr. Buchanan was active and prominent, as a banker and manufacturer, as well as in his profession, and had served for 25 years on the school boards of his city.

DR. DAVID N. DALTON, of Winston-Salem, New York University Medical School, '81, died at his home September 4th. Because of ill health Dr. Dalton had not been in practice for about 10 years.

DR. WILLIAM H. BROWN, of Tucson, Arizona, and MISS ELLEN BYRD DEW, daughter of Dr. and Mrs. Roderick Dew, of Woodford, Va., were married at Woodford August 25th.

DR. FRANK BAKER MARSH, of Salisbury, Jefferson Medical College, 1919, and Miss MARTHA LOUISE JENKINS, of Tarboro, were married September 8th.

DR. A. MURAT WILLIS, of Richmond, is spending several weeks abroad.

DR. P. G. HAMLIN, formerly a member of the medical staff of the Eastern State Hospital at Williamsburg, Virginia, is now specializing in x-ray work at Lynchburg.

DR. WILLIAM E. WILSON, 64, Louisville Medical College, '86, died at his home at Mooresville, N. C., September 6th.



DR. AND MRS. RANDOLPH TUCKER SHIELDS, who have been spending a year in Virginia, sailed from Vancouver, B. C., September 6th on the steamer Empress of Canada for Shanghai. Dr. and Mrs. Shields are identified with the medical missionary work of the Presbyterian Church at Tsinan.

DR. POWELL G. FOX, of the Mary Elizabeth Clinic, Raleigh, returned on September first after a four months' course in Urology at the University of Pennsylvania.

DR. EDWARD JENNER WOOD, University of Pennsylvania, 1902, one of the greatest medical scientists the state has produced, died suddenly at his home at Wilmington, September 16th. A special "Wood Memorial Number" of this journal is in prospect for the near future.

DR. R. B. MCKNIGHT, Charlotte, has been invited to give a talk on Regional Anesthesia before the meeting of the Southern Association of Anesthetists at their annual meeting in conjunction with the meeting of the Southern Medical Association in Asheville, November 12-15. His subject will be "Factors Contributing to Failure in Regional Anesthesia."

MEETING MECKLENBURG COUNTY MEDICAL SOCIETY, Charlotte, Tuesday, September 18th. Program: Case Report, "Vascular Lues," Dr. A. A. Barron; "Diphtheria," Dr. Robert Moore; Proposed Professional Men's Clearing House, Mr. W. M. Hood; Movies of Doctors' 1928 Fish Fry, etc.

PROGRAM NINTH DISTRICT MEDICAL SOCIETY MEETING AT STATESVILLE, N. C.,

SEPTEMBER 27, 1928

Every member is urged to be present at 9:30 a. m. sharp in order that the program can go through on schedule time.

*Morning Session*

*Mitchell College*

9:30 A. M.—Meeting called to order by Dr. M. R. Adams, Statesville.

Invocation—Rev. C. E. Raynal, Statesville.

Address of Welcome—Hon. D. L. Raymer, for Iredell county; Mr. J. B. Roach, Mayor, for the City of Statesville.

Response—Dr. Glenn Frye, Hickory.

President called to chair—Dr. C. Banks McNairy.

President's Address.

Selection of meeting place for 1929.

Election of officers for 1929.

### *Papers*

"The Diagnosis of Eye, Ear, Nose and Throat Conditions from the Standpoint of the General Practitioner," Dr. Glenn Tygett, Statesville.

"The Principles of the Treatment of Acute Cranial Injuries," Dr. Thomas H. Sparrow, Charlotte.

"The Treatment of Chronic Posterior Urethritis, Prostatic Hypertrophy and Allied Conditions by Electro-Therapy," Dr. C. H. Phillips, Thomasville.

"The Differential Diagnosis of Ovarian Cystoma," Major James M. Troutt, M. C., U. S. A., Honolulu, T. H.

"Diagnosis of Incipient Chronic Glaucoma," Dr. R. R. Goad, Statesville.

"Cesarean Section," Dr. L. A. Crowell, Lincoln.

"The Importance and Interpretation of Kidney Function Test," Dr. Fred M. Patterson, Greensboro.

"The Health of Children Born After Pelvic Radium and X-Ray Therapy," Dr. Douglas Murphy, Philadelphia, Pa.

"Peroral Endoscopy as an Aid to the General Practitioner," Dr. Louis H. Clerf, Philadelphia, Pa.

"The Home Treatment of Tubercular Children," Dr. C. W. Armstrong, Salisbury.

"Fear, Mankind's Worst Enemy," Dr. James K. Hall, Richmond, Va.

"Southern Medicine and Surgery," Dr. James M. Northington, Charlotte.

### *Dinner*

#### *First Presbyterian Church*

Toastmaster—Dr. C. Banks McNairy

Introduction of guests.

Address—Dr. Cyrus Thompson, Jacksonville.

Short After Dinner Talks—Dr. Wm. deB. MacNider, Chapel Hill; Dr. Thurman D. Kitchin, Wake Forest; Dr. Charles O'H. Laughinghouse, Raleigh; Dr. W. C. Davison, Duke University, Durham; Dr. J. T. Burrus, High Point; Rev. Thomas L. Trott, and others.

## UNUSUAL USES OF THE BLOOD-PRESSURE APPARATUS

George Pasto, M.D., Veronia, Oregon  
(From *Medical Sentinel*)

### (1) *To Cause Venous Congestion*

**Method:** Apply the apparatus (either type works just as well) in the ordinary way and take both the systolic and the diastolic pressure. By keeping the pressure just below the systolic the veins are blocked proximally while the arteries, still open, continue to pass blood into the forearm.

**Results:** The veins become very prominent, greatly facilitating the introduction of a needle into the vein lumen in intravenous medication, in withdrawing blood for a wassermann, or in transfusions. The patient suffers less discomfort with this method than with the usual elastic or similar tourniquet.

After the needle is in the vein, the pressure is kept up if it is desired to withdraw blood; otherwise, it is released immediately.

### (2) *To Produce a Bloodless Field*

**Method:** Apply the sleeve to the thigh or arm, depending on whether one wishes to operate on the leg or forearm and hand. Raise the extremity as far as possible from the level of the heart and keep it there 10 seconds.

Then, before allowing the limb down, raise the pressure to about 20 degrees above the individual's systolic pressure.

**Results:** A very dry field results. This makes it much easier to find anatomical parts and foreign bodies.

In minor surgery of the hand or forearm there is another and greater advantage to the use of this method. If we let the patient handle the pressure bulb and assign him the task of keeping the mercury column or dial at a certain degree—a very difficult task, to be sure—his attention becomes diverted from the surgical work being done, and, as a result, it

does not affect him as much. Fainting and nausea will hardly ever develop in the ordinary minor operation.

### (3) *To Compare and Measure the Gripping Power of the Hands*

**Method:** Roll (do not fold) the sleeve loosely on itself. Secure the end of the sleeve by inserting it under the last roll made. Pump air into the sleeve until the dial registers 10 degrees. Then have the patient grasp the sleeve with one of his hands and compress it as much as possible. The dial will register the intensity of the exerted pressure. (The average is about 280 degrees).

**Results:** This gives an accurate method of comparing the gripping power of the hands. (The right hand of a right-handed person is about 20 degrees stronger.) It should prove useful in detecting and following the progress of affections of the nerves and muscles of the arm, forearm and hand or any disease affecting them. It might also be used to encourage convalescents by showing them how they are getting stronger each day.

## REPLY TO A CHARLOTTE DOCTOR'S REQUEST FOR PAYMENT FOR SERVICES RENDERED WESTLEY

Dear Sir,

yours to Hand sometime ago was Received Stating what you Done for Westley and in Reply to your Statement i Believe what you say is tru i am willing to Do what is wright But lisen and think just a moment i was not maried to his Mother Neither Did i ever live with hear Westley Did Not Respeck me as a Dady he never would come to see me Neither Do his People take Eny thing to Do with me and i Dont think that I Can handel that man account hopin to hear from you at an Earley Date

yours truley

S. F. Leaphart

## *The Tulane University of Louisiana* **GRADUATE SCHOOL OF MEDICINE**

Approved by the Council on Medical Education of the A. M. A.

Post-graduate instruction offered in all branches of medicine. Courses leading to a higher degree have also been instituted.

A bulletin furnishing detailed information may be obtained upon application to the

DEAN

*Graduate School of Medicine*

1551 Canal Street, NEW ORLEANS, LA.

# MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA

## DISTRICT OFFICERS

### First District:

Pres.—Dr. W. T. Griggs ..... Poplar Branch  
Sec.—Dr. I. A. Ward ..... Elizabeth City

### Second District:

Pres.—Dr. William E. Warren ..... Williamston  
Sec.—Dr. Chas. Mangum ..... Kinston

### Third District:

Pres.—Dr. J. W. Carroll ..... Wallace  
Sec.—Dr. A. MacR. Crouch ..... Wilmington

### Fourth District:

Pres.—Dr. Spencer P. Bass ..... Tarboro  
Sec.—Dr. G. M. Brooks ..... Elm City

### Fifth District:

Pres.—Dr. A. C. Everett ..... Rockingham  
Sec.—Dr. O. L. McFayden ..... Fayetteville

### Sixth District:

Pres.—Dr. S. P. Burt ..... Louisburg  
Sec.—Dr. Burton W. Fassett ..... Durham

### Seventh District:

Pres.—Dr. R. H. Crawford ..... Rutherfordton  
Sec.—Dr. Raymond Thompson ..... Charlotte

### Eighth District:

Pres.—Dr. F. C. Hubbard ..... No. Wilkesboro  
Sec.—Dr. W. A. Tucker ..... No. Wilkesboro

### Ninth District:

Pres.—Dr. A. B. Byerly ..... Cooleemee  
Sec.—Dr. J. W. Davis ..... Statesville

### Tenth District:

Pres.—Dr. Chas. Z. Candler ..... Sylva  
Sec.—Dr. D. M. McIntosh ..... Old Fort

## County Medical Societies and Officers

County	President	Secretary
Alamance .....	Dr. C. W. McPherson, Burlington, N. C.	Dr. R. E. Brooks, Burlington, N. C.
Anson .....	R. D. Ross, Wadesboro, N. C.	J. E. Hart, Wadesboro, N. C.
Ashe .....	Thomas J. Jones, Lansing, N. C.	R. H. Hardin, Banners Elk, N. C.
Avery .....	W. B. Burleson, Plum Tree, N. C.	J. C. Tayloe, Washington, N. C.
Beaufort .....	Lewis H. Swindell, Washington, N. C.	Edgar P. Norfleet, Roxobel, N. C.
Bertie .....		E. S. Clark, Clarkton, N. C.
Bladen .....	Dewey H. Bridger, Bladenboro, N. C.	M. S. Broun, Asheville, N. C.
Buncombe .....	O. F. Eckel, Asheville, N. C.	G. M. Billings, Morganton, N. C.
Burke .....	R. H. Long, Morganton, N. C.	W. A. Rourk, Shallotte, N. C.
Brunswick .....	W. R. Goley, Shallotte, N. C.	Joe A. Hartsell, Concord, N. C.
Cabarrus .....	R. M. King, Concord, N. C.	Clyde R. Hedrick, Lenoir, N. C.
Caldwell .....	A. B. Goodman, Lenoir, N. C.	S. W. Thompson, Morehead City, N. C.
Carteret .....	Francis Edward Hyde, Beaufort, N. C.	Robt. T. Hambrick, Hickory, N. C.
Catawba .....	H. C. Menzies, Hickory, N. C.	
Chatham .....	Jesse D. Edwards, Siler City, N. C.	
Cherokee .....	B. G. Webb, Andrews, N. C.	Wm. C. Morrow, Andrews, N. C.
Chowan-Perquimans .....		
Cleveland .....	T. B. Gold, Shelby, N. C.	S. M. Schenk, Shelby, N. C.
Columbus .....	G. S. Cox, Tabor, N. C.	Floyd Johnson, Whiteville, N. C.
Craven .....	Harvey B. Wadsworth, New Bern, N. C.	D. E. Ford, New Bern, N. C.
Cumberland .....	D. S. Currie, Parkton, N. C.	O. L. McFayden, Fayetteville, N. C.
Currituck .....		
Davidson .....	C. H. Phillips, Thomasville, N. C.	G. C. Gambrell, Lexington, N. C.
Davie .....	W. C. Martin, Mocksville, N. C.	A. B. Byerly, Cooleemee, N. C.

<i>County</i>	<i>President</i>	<i>Secretary</i>
Duplin		
Durham-Orange	H. M. Brinkley, Greer Bldg., Durham, N. C.	W. R. Stanford, Box 894, Durham, N. C.
Edgecombe	J. M. Baker, Tarboro, N. C.	A. C. Norfleet, Tarboro, N. C.
Franklin	R. B. Henderson, Franklinton, N. C.	H. H. Johnson, Louisburg, N. C.
Forsyth	L. J. Butler, Winston-Salem, N. C.	T. C. Redfern, Winston-Salem, N. C.
Gaston	J. Sidney Hood, Gastonia, N. C.	James A. Anderson, Gastonia, N. C.
Gates		
Granville	G. S. Watkins, Oxford, N. C.	B. K. Hays, Oxford, N. C.
Greene	W. W. Whittington, Snow Hill, N. C.	W. E. Dawson, Hookerton, N. C.
Guilford	D. W. Holt, High Point, N. C.	Russell O. Lyday, Greensboro, N. C.
Halifax-Northampton	W. G. Suiter, Weldon, N. C.	Z. P. Mitchell, Weldon, N. C.
Harnett	P. G. Parker, Erwin, N. C.	S. A. Duncan, Coats, N. C.
Haywood	J. M. Russell, Canton, N. C.	Wm. G. Francis, Waynesville, N. C.
Henderson	R. C. Sample, Hendersonville, N. C.	Walter O. Allen, Hendersonville, N. C.
Hertford	W. B. Pollard, Winton, N. C.	Paul H. Mitchell, Ahoskie, N. C.
Hoke	S. M. Bittinger, Sanatorium, N. C.	J. Abery H. Williams, Sanatorium, N. C.
Iredell-Alexander	S. A. Rhyne, Statesville, N. C.	Roy C. Tatum, Statesville, N. C.
Jackson	C. Z. Candler, Sylva, N. C.	D. D. Hooper, Sylva, N. C.
Johnston	Geo. D. Vick, Selma, N. C.	C. C. Massey, Smithfield, N. C.
Jones	A. F. Hammond, Pollocksville, N. C.	B. W. Page, Maysville, N. C.
Lee	M. L. Matthews, Sanford, N. C.	Lynn McIver, Sanford, N. C.
Lenoir	V. L. Bigler, Kinston, N. C.	Thomas L. Lee, Kinston, N. C.
Lincoln	W. G. Bandy, Lincolnton, N. C.	W. V. Costner, Lincolnton, N. C.
McDowell	D. M. McIntosh, Old Fort, N. C.	Guy S. Kirby, Marion, N. C.
Macon-Clay		W. A. Rogers, Franklin, N. C.
Madison	Frank Roberts, Marshall, N. C.	
Martin	E. M. Long, Hamilton, N. C.	Wm. E. Warren, Williamston, N. C.
Mecklenburg	S. M. Henderson, Charlotte, N. C.	L. C. Todd, Charlotte, N. C.
Mitchell-Watauga	C. F. Lambert, Spruce Pine, N. C.	J. M. Peterson, Spruce Pine, N. C.
Montgomery	N. G. Nicholson, Mt. Gilead, N. C.	W. F. Harris, Troy, N. C.
Moore	A. A. McDonald, Jackson Springs, N. C.	R. G. Rosser, Vass, N. C.
Nash	T. O. Coppedge, Nashville, N. C.	W. S. Jones, Nashville, N. C.
New Hanover	J. F. Robertson, Wilmington, N. C.	Geo. Johnson, Wilmington, N. C.
Onslow	C. W. Sutton, Richlands, N. C.	E. L. Cox, Jacksonville, N. C.
Pamlico	D. A. Dees, Bayboro, N. C.	J. J. Purdy, Oriental, N. C.



<i>County</i>	<i>President</i>	<i>Secretary</i>
Pasquotank-Camden-Dare		R. L. Kendrick, Elizabeth City, N. C.
Pender		W. I. Taylor, Burgaw, N. C.
Person	Walter T. Long, Roxboro, N. C.	A. F. Nichols, Roxboro, N. C.
Pitt	W. M. Willis, Farmville, N. C.	C. M. Crisp, Greenville, N. C.
Polk	A. J. Jervey, Tryon, N. C.	E. McQueen Salley, Saluda, N. C.
Randolph	W. L. Lambert, Asheboro, N. C.	Tiffany Barnes, Asheboro, N. C.
Richmond	Wm. C. Terry, Hamlet, N. C.	A. C. Everett, Rockingham, N. C.
Robeson	J. A. Martin, Lumberton, N. C.	J. M. Britt, Lumberton, N. C.
Rockingham	Carl V. Tyner, Leaksville, N. C.	Keenan Casteen, Leaksville, N. C.
Rowan	Mason H. Brawley, Salisbury, N. C.	J. M. Ketchie, Salisbury, N. C.
Rutherford	J. F. Hunt, Campobello, S. C., R. No. 4	Wm. C. Bostic, Forest City, N. C.
Sampson	J. Street Brewer, Roseboro, N. C.	Victor R. Small, Clinton, N. C.
Scotland	John S. Gibson, Gibson, N. C.	L. T. Buchanan, jr., Laurinburg, N. C.
Stanly	L. R. Gaskin, Albemarle, N. C.	J. Clegg Hall, Albemarle, N. C.
Stokes		
Surry	J. L. Woltz, Mt. Airy, N. C.	Roy C. Mitchell, Mt. Airy, N. C.
Swain		H. W. Tidmarsh, Bryson City, N. C.
Transylvania		
Union	J. E. Thomas, Waxhaw, N. C.	Wm. Love, Monroe, N. C.
Vance	J. H. Wheeler, Henderson, N. C.	A. P. Newcombe, jr., Henderson, N. C.
Wake	E. C. Tudd, Raleigh, N. C.	R. B. Wilkins, Raleigh, N. C.
Warren	H. H. Foster, Norlina, N. C.	W. D. Rodgers, Warrenton, N. C.
Wash-Tyrell		
Wayne	A. G. Woodward, Goldsboro, N. C.	M. E. Bizzell, Goldsboro, N. C.
Wilkes	E. M. Hutchins, No. Wilkesboro, N. C.	W. A. Tucker, No. Wilkesboro, N. C.
Wilson	C. L. Swindell, Wilson, N. C.	M. A. Pittman, Wilson, N. C.
Yadkin		Chas. G. Bryant, Jonesville, N. C.
Yancey		W. Burdett, Robertson, Burnsville, N. C.

**OFFICERS**

**Medical Society of the State of  
North Carolina  
1928-1929**

*President*

Dr. Thurman D. Kitchin.....Wake Forest

*First Vice-President*

\*Dr. W. L. Dunn.....Asheville

*Second Vice-President*

Dr. D. T. Tayloe, jr.....Washington

*Third Vice-President*

Dr. W. D. James.....Hamlet

*Secretary-Treasurer*

Dr. L. B. McBrayer.....Southern Pines

**COUNCILORS***First District*

Dr. H. D. Walker.....Elizabeth City

*Second District*

Dr. Grady G. Dixon.....Ayden

*Third District*

Dr. J. B. Cranmer.....Wilmington

*Fourth District*

Dr. W. H. Smith.....Goldsboro

*Fifth District*

Dr. E. A. Livingston.....Gibson

*Sixth District*

Dr. V. M. Hicks.....Raleigh

*Seventh District*

Dr. T. C. Bost.....Charlotte

*Eighth District*

Dr. R. B. Davis.....Greensboro

*Ninth District*

Dr. M. R. Adams.....Statesville

*Tenth District*

Dr. J. F. Abel.....Waynesville

*Chairman Committee on Arrangements*

Dr. C. A. Julian.....Greensboro

\*Deceased

**OFFICERS**

**Tri-State Medical Association of  
the Carolinas and Virginia  
1928-1929**

*President*—Dr. J. K. Hall.....Richmond, Va.

*Vice-Presidents:*

Dr. Oren Moore.....Charlotte, N. C.

Dr. R. Finley Gayle, jr.....Richmond, Va.

Dr. DeWitt Kluttz.....Greenville, S. C.

*Secretary-Treasurer:*

Dr. J. M. Northington.....Charlotte, N. C.

**EXECUTIVE COUNCIL****ONE YEAR TERM**

Dr. Warren T. Vaughan.....Richmond, Va.

Dr. M. H. Wyman.....Columbia, S. C.

Dr. L. G. Beall.....Black Mountain, N. C.

**TWO YEAR TERM**

Dr. E. S. Boice.....Rocky Mount, N. C.

Dr. F. B. Johnson.....Charleston, S. C.

Dr. R. L. Payne.....Norfolk, Va.

**THREE YEAR TERM**

Dr. J. Bolling Jones.....Petersburg, Va.

Dr. D. A. Garrison.....Gastonia, N. C.

Dr. W. R. Wallace.....Chester, S. C.

# SOUTHERN MEDICINE and SURGERY

VOL. XC      CHARLOTTE, N. C., OCTOBER, 1928      NO. 10

## PERORAL ENDOSCOPY AS AN AID TO THE DOCTOR IN GENERAL PRACTICE\*

LOUIS H. CLERF, M.D., Philadelphia

From the Chevalier Jackson Bronchoscopic Clinics

No discussion of bronchoscopy and esophagoscopy would be complete without reference being made to the diagnosis and treatment of foreign bodies in the air and food passages. Too often practitioners will say that they are not especially interested in foreign bodies since such cases are medical curiosities and they have never observed a case in their practice. This same practitioner will think of Banti's disease when examining a child with obscure abdominal symptoms, he will think of pernicious anemia and many other conditions which, although relatively common, are probably not so common as foreign bodies. The diagnosis of foreign body will be rarely made if he, who examines the patient, rarely considers foreign body as a possibility.

At the present time the collection of foreign bodies removed from the air and food passages at the Chevalier Jackson Bronchoscopic Clinics totals almost 2,200 cases. With few exceptions these cases were referred to the clinic by men engaged in the general practise of medicine, so we are dependent on the general practitioner for recognition of these cases.

The removal of foreign bodies is a highly technical matter and cannot be adequately shown by lantern slides. The general principles underlying the removal of the foreign object and the mechanical problems involved in each case can be studied only on the manikin, cadaver and dog. It requires constant practise and the possession of an adequate

instrumentarium as well as a well trained team of workers.

One of the most common sources of error in diagnosis has been failure to attach sufficient importance to the history given by the patient or by a member of the family. *We make it a rule to consider as a potential case of foreign body, every patient who had an attack of choking, coughing, or gagging while holding some object in the mouth.* In order to establish the absence or presence of a foreign body in such a case we have an internist make a careful physical examination, a roentgenologist study the patient under the fluoroscope and by roentgenograms, and, occasionally, we go so far as to do a diagnostic bronchoscopy. Not infrequently a patient is sent to the clinic after having passed through the hands of half a dozen practitioners, all of whom have been told that the child choked while eating peanut candy, yet no one attached sufficient importance to the statement to make a tentative diagnosis of foreign body.

The roentgenologist usually has no difficulty in making a diagnosis of opaque foreign body in the air or food passages, provided his exposures include the patient's trunk and neck from the nasopharynx to the tuberosities of the ischium. In the case of seeds, nuts and shells—the peanut being the commonest example—a roentgen-ray study will not reveal the foreign body itself, since these objects are all non-opaque to the ray; however, the roentgenologist can, by observing the patient fluoroscopically and by comparing films made at the end of inspiration and expiration, observe changes in the two lungs, the mediastinal structures and diaphragm, and, in this way, make a positive diagnosis

\*Presented by invitation to the Ninth (N. C.) District Medical Society, meeting at Statesville, September 27th.

of obstruction of a bronchus by some non-opaque substance. So accurate is this method of roentgen-ray localization that in practically every case referred to the clinic we are able to secure accurate localization by the roentgenologist as well as the internist before bronchoscopy is done.

Metallic foreign bodies in the tracheo-bronchial tree are non-irritating and are possibly germicidal. There are no pathological changes observed unless the foreign body obstructs a bronchus. A symptomless interval of weeks, months, or even years may intervene if there is no obstruction. In these cases obstruction occurs because of corrosion of the foreign body and because of secondary local changes in the bronchial mucosa. Then abscess and bronchiectasis occur, but, curiously, these lesions heal spontaneously in almost all cases as soon as the foreign body is removed. If the foreign body obstructs a bronchus—as in the case of a bullet or bead aspirated into the bronchus—there are physical signs over the involved lung which suggest pneumonia; later, because the pneumonia does not clear up, a diagnosis of empyema is often made and external drainage is recommended. Fortunately for the patient, surgeons usually advise a roentgen-ray study, which, in these cases, will reveal the true cause of the pulmonary changes. The foreign body can be removed through the mouth by bronchoscopy and within a few days the patient is practically well.

Non-opaque foreign bodies—notably, nuts, seeds, and shells—not infrequently produce obstruction of the bronchus, and usually there is no symptomless interval. Aspiration of these occurs most commonly in little children and their presence sets up a violent septic laryngo-tracheo-bronchitis, which, in the very young, is ultimately fatal. Parents should be warned that peanuts and other nuts, as well as nut candies, should never be given to children. Remember that, although the nut will not cast a shadow, the roentgenologist can demonstrate change in the lungs during the respiratory cycle which will indicate that there is obstruction to one or the other bronchus.

Safety pins are more often found in the esophagus than in the tracheo-bronchial tree. They are apt to perforate and will prove

fatal because of this. No one who is familiar with foreign body cases and their treatment would ever consider blind methods of removal; especially is this true in the case of safety pins.

In the case of non-opaque foreign bodies in the esophagus—notably, small fragments of bone—the calcium content is insufficient to cast a shadow on the x-ray film. There the roentgenologist utilizes a radiopaque mixture—either bismuth subnitrate or barium sulphate in solution or in capsule. With these he can accurately determine and localize an obstruction in the esophagus. Any patient complaining of difficulty in swallowing, irrespective of whether or not there is a history of swallowing a foreign body, should be given the benefit of a roentgen-ray study of the esophagus.

What would one do if the foreign body has been swallowed and has reached the stomach? Our method of treatment which has been carried out in several thousand cases is: the foreign body is first localized by roentgen-ray study; if the roentgenologist believes that the foreign body is too large to leave the stomach or, perhaps, because of its size, it will be held up in the course of the duodenum, peroral gastroscopy with fluoroscopic assistance is performed. Presuming that the foreign body is capable of leaving the stomach—be it an open safety pin, a common pin or a coin—the patient is instructed to take no laxative, to continue with the diet taken before the accident occurred, and to report to the clinic daily for a roentgen-ray check up to determine if the object is making progress through the intestinal canal. In the event that it remains fixed in one locality for several days, or if the patient complains of localized abdominal symptoms, the surgeon is called in consultation.

Those of you who completed your medical education twenty or thirty years ago will recall that very little time and thought was expended in the consideration of diseases of the esophagus; in fact, it was generally believed that the esophagus was not the subject of many ills. Dr. Chevalier Jackson has catalogued twenty-eight conditions which may affect the esophagus. Although there is some overlapping in this list, the majority of the conditions represented are definite esophageal diseases; several are diseases of



adjoining viscera which secondarily involve the esophagus and produce symptoms referable to it.

The outstanding symptom of esophageal disease is *difficulty in swallowing*; regurgitation, hematemesis, and other disturbances may occur sooner or later; loss of weight and pain are late symptoms and should never enter into the symptom-complex of any disease of the esophagus. Any patient who manifests any symptom referable to the esophagus should receive the benefit of a complete systemic examination and a roentgen-ray study of the chest and of the esophagus. Globus hystericus, so-called, is often the earliest manifestation of cancer of the esophagus. The roentgenologist is correct in about 90% of the cases of esophageal disease. Esophagoscopy in conjunction with roentgenology gives us a correct diagnosis in almost 100% of cases.

Bronchoscopy for diagnosis and treatment of pulmonary diseases—notably, pulmonary abscess and bronchiectasis—is gaining widespread importance, so that where formerly

endoscopic procedures were limited almost entirely to the removal of foreign bodies, we now do about thirty to forty bronchoscopies for disease to one for foreign body removal.

Although the internist can "tap, look, and listen," (Chevalier Jackson), and the roentgenologist can look through the patient, it is often only by looking into the patient that we are able to arrive at a correct diagnosis. This can be accomplished by bronchoscopy. Every patient presenting obscure chest signs which cannot be explained on the basis of ordinary examinations, is entitled to bronchoscopic investigation. So often has this method brought to light remarkable and unexpected findings that internists who are associated with institutions equipped with bronchoscopic clinics frequently take advantage of this means of diagnosis and request diagnostic bronchoscopy.

In the treatment of lung abscess—notably, post-tonsillectomic in origin—it is believed that the patient has not received the benefits of medical skill if bronchoscopy was not considered as a method of treatment.

#### CONFUSING INSULIN SYRINGE

Certain manufacturers of so-called "insulin syringes" both here in the U. S. and abroad are placing on the market syringes peculiarly graduated and, therefore, potentially dangerous. The syringes referred to are of a 2 c.c. capacity and are graduated on two sides as having a capacity of 20 and 40 units of insulin, respectively. Since insulin is measured by unit strength per 1 c.c. content in accordance with the standard established by the insulin committee of the University of Toronto and is uniformly so manufactured by every biological concern licensed to make it, if one uses a 2 c.c. syringe and regards the unit numbers marked on such a syringe, the patient gets twice the number of units intended to be given. For example, if 40 units are ordered at each dose and the patient is supplied with a U. 40 insulin, it is uniformly the custom of physicians in instructing either the nurse or the patient to disregard the side of the syringe scaled U. 20 and measure the insulin on the side scaled U. 40. When using a syringe with a capacity of 1 c.c. and scaled on one side U. 40, the piston is pulled out until the insulin is drawn to the figure 40, which means the patient will get 40 units which was the amount desired in our supposed case. But if after using this syringe for a few days it is broken and the hospital or the patient procures a new one from the local druggist which happens to be one of the 2 c.c. syringes, the next dose of insulin obtained by drawing the fluid up to the mark of 40 contains 80 units instead of 40 as intended. The result of such doubling of dosage in two or three days is a hypoglycemia and the doctor is puzzled as to the cause. He is fortunate if nothing more serious occurs than to be merely puzzled as will certainly happen if the patient is on a weighed diet, his sugar tolerance

known, and the dosage of insulin accurately determined to burn the difference.

Inasmuch as insulin is made with its unit strength labelled per c.c. it follows that insulin syringes should be scaled in units per c.c. capacity. This has been true of insulin syringes until recently when an American concern put on the market a 2 c.c. syringe graduated exactly as if it had a capacity of 1 c.c. More recently a European concern has shipped syringes to this country graduated the same way. These syringes were sold by the retailers without their even noticing that they had a capacity of 2 c.c. instead of 1 c.c. as heretofore. They were used in hospitals with the same oversight and quite naturally patients procuring replacements would not be expected to notice the difference.—Simpson, in *Kentucky Med. Jour.*

#### DANGERS FROM EPHEDRINE

Ephedrine is a dangerous drug to use when patients show evidence of cardiac damage. Extreme care is necessary in the diagnosis of bronchial asthma, as not infrequently cases of so-called "cardiac asthma" are put in this group. Ephedrine may produce acute cardiac decompensation and *pulsus alternans* in patients with damaged hearts. If during the administration of ephedrine the patient exhibits any toxic symptoms such as palpitation, tachycardia, arrhythmia or vasomotor disturbances, the drug should be promptly discontinued. *Pulsus alternans* does not have the serious significance for patients who exhibit this condition with tachycardia as it has for persons with a normal cardiac rate. The sale of ephedrine to the layman should be discouraged, and even its indiscriminate use by the physician is to be deplored.—Bloedorn and Dickens, in *Arch. Int. Med.*

## FEAR—MANKIND'S WORST ENEMY\*

JAS. K. HALL, M.D., Richmond  
Westbrook Sanatorium

The familiar things excite in us little wonder. But I do recall an occurrence of last spring with a feeling somewhat akin to wonder and admiration. A basket of chicks, scarcely twenty-four hours out of their shells, were transferred from the utterly dark lower deck of the incubator to a compartment in the brooder-house. In the brooder-house were three objects to which they must respond in a certain manner, otherwise they would promptly perish—the brooder, with its artificial heat in substitution for that of the mother's breast; one vessel with water in it; and another receptacle containing food. The baby chicks had never before seen any one of the three objects, nor any other objects, indeed, save other chicks. Yet without hesitation and without instruction they behaved as rationally as if each had been possessed of high intelligence. They sought under the hood of the brooder the needed degree of warmth, and to one vessel they ran for water and to another for food. And they continued, most of them, to live and to grow. What divine force exercised directive control over them in impelling them to perform automatically those life-sustaining acts which we human beings learn so slowly to do at all? Thousands of times each day if we but look around we may see instinctive behavior at work. But do we stop to wonder at the marvelous thing it is?

Someone has defined instinct, I believe, as the tendency to act in such a way as to produce certain ends, without having any knowledge of what those ends will be, and without having been trained in the performance of the acts which lead to the accomplishment of those ends. The bird hatched last spring will build next spring a nest in such a tree and of such a texture as all birds of its kind have built throughout the ages, and the fabrication is done perfectly, though without the aid of experience or instruction. Every country boy knows that. And he knows, too, that

the rabbit bounced from its bed by the roving hound, if not caught, will come again back to its bed; and the boy expects the robins to come in the spring-time, and the humming-birds to go to their southern home in the fall. Instinct unerringly fetches the wild fowls of the north to their feeding grounds in the south when the snow begins to fly in the Canadian woods; and they come straight and as certainly as if each of them carried a compass under a wing. But without the aid of devices representing man's highest skill we humans can not equal their blind behavior. In the world of living things instinct is as pervasive and as dominating as gravity is in the world of matter. How infinitely more admirable it is than man's highest thoughts! The innate tendency to behave in definite and fixed fashion must be bound up in every unit of structure whether the living thing be a complex, sentient being or only a single-celled organism. Living structure must carry with it behavior tendencies, transmitted through the probable millions of years of ancestry behind it, and the law of evolution must be as definitely at work in the world of conduct as in the world of structure and of form. In the domain of behavior instinctive trend occupies the same relative position as that occupied by embryology in the field of structure. The student of anatomy can not understand the structure of the adult human body without having an understanding of the embryo out of which the body develops. The student of human mental processes can not understand the operations of the mind without knowing something about the ways of instinctive behavior. Developed out of these primitive structurally inherited trends come all the higher mental activities. But we display our usual egotism and our feeling of superiority in ascribing our own behavior to intelligence and the behavior of the lower animals, so-called, to instinct. We ourselves are richer, not poorer, in instincts than any of the animals below us. Your anatomical studies and mine were begun not on a human body, but on the low-crawling earth-worm,

\*Presented by invitation to the Ninth District Medical Society at Statesville, N. C., September 27, 1928.

then on the dog-fish, the frog, and finally upon the cat, that counterpart of man in structure. If there be in us anatomical likenesses to these lower forms why should we be surprised to discover that we are also behavioristically not unlike them?

Instinct and intelligence—what other purposes do they serve than the preservation of the individual and the perpetuation of the species? We are all striving fundamentally for no other end than to cling to the craft of life until we can leave our images behind us. Sometimes that consummation is fortunate for the world, sometimes perhaps otherwise. And in these two trends—the self-preservative and the race-perpetuative—are comprehended all the strivings of all life. If the life beyond be but the projection and the perfection of this present life rational objection can not be sustained against the statement even if it be made applicable to us mortals. We hunger, we thirst, we love, we hate, we wonder about the universe—all these urges are instinctive, inherent, purposeful; they propel, they guide, or else they interfere with our routine activities. We give little thought to the usual performances of the day. The impulses that drive us arise mostly below the level of consciousness—deep down in the base of the brain and in the spinal cord. New tricks—learning to talk, to wear clothing, to write, to drive a car, to use the typewriter, to telephone, to make a living, indeed—all those things that civilization expects of us are learned, to be sure, by the brain, but once thoroughly learned, the doing of them is pushed far below the level of consciousness, and afterwards they are performed more or less automatically—they become instinctive. And that is what we mean by learning a trade. Perhaps that is what we mean by being educated.

Our instincts are in numbers almost as multitudinous as the sands of the seashore. They give us continuing life; sometimes they bring us to death. Around them are built up all the great emotions—joy and sorrow, love and hate, hope and despair. The neuroses represent the efforts of primitive instincts to manifest themselves against the disapproval of civilization. It is impossible to be civilized and at the same time to be natural.

For a few moments I hope to commune with you about the medical aspects of one

of these great emotions. Do you ask the difference between an instinct and an emotion? Is not instinct a form of energy that drives us without our being scarcely conscious of the how or the why of it? But we are keenly alive to the violence of the propulsion of an emotional upheaval. An emotion serves notice that a flood of energy has been released. We are unaware that we are instinctive; we are painfully or joyously alive to the overwhelming rush of an emotional storm. I am going to speak of fear.

Aside from the one great passion that has to do with the perpetuation of the species there is no other passion so forceful. It rules the world of animal life. Fear is hoary with age. Within a week after the Garden of Eden had become finished as an ideal place of habitation its two human occupants found themselves in the grip of their first great emotional experience—fear—and they hid themselves from God. Their descendants have remained afraid. Two thousand years ago the voice of an angel from the skies cried out: Fear not. But the fears of the shepherds were not permanently allayed, and mankind is still afraid.

Instinct tends to protect and to perpetuate; fear often paralyzes and destroys. Instinct tends to act in conjunction with intelligence; fear tends to bring about temporary suspension of rational conduct and to render the individual helpless. Fear is much more than a disturbed and distressed state of mind; the emotion carries with it always a concomitant dysfunction of the bodily activities. We are each of us in our own lives familiar with the upheaval that takes place in the grosser physiological processes during an episode of fear—the tautened muscles, the pounding heart, the throbbing pulsations, the erratic breathing, the dry mouth, the cold skin, and the muscular twitchings. But still more profound changes take place in the chemical substances produced by the organs and glands of the body. One of the accepted theories of the origin of fear would relate it to this changed bodily condition. In accordance with this theory so clearly outlined by Lange, the Denmark physician, and James, the psychologist, the emotion fear arises not directly as the result of the terrifying object. The perception of the object reflexly causes the disordered state of the physiologic proc-



esses, and the mind becomes upset because of the strange condition of the bodily processes. And other great emotional outbursts are explained in the same manner. We become afraid because we flee, we become enraged because we fight, we feel distressed because we cry. The fear comes after and because of the changed condition of the body.

Instinctive fear served a protective purpose with our savage and uncivilized ancestors. They had little wit and few mechanical devices with which to defend themselves. Flight or attack was often necessary for their preservation. Fear immediately mobilized all their physical energies and made them available, as the circumstances might indicate, either for flight or for assault. In like manner today when we find ourselves in the grip of a great fear our physical forces have been prepared for self-preservative purposes. But we do not, or at least we should not, deal with emergencies in such fashion. We should meet situations with our intelligences and with all the paraphernalia with which civilization has provided us.

To fear means not to understand. My own three-year-old son afforded an illustration of this observation. While the family were at supper on a blustery, stormy February evening, a strange, weird, whistling, uncanny noise came with every gust of the wind. The little boy ceased to eat, he looked from face to face, with tears in his eyes, and then he crept out of his chair, came to me, took my hand in his, and asked beseechingly for comfort and protection: Daddy, what is that? But I did not know. I told him, however, that we would find out. And as we searched around the house and through the rooms, the strange sound came again and again, and the little boy would hold my hand tighter and tighter and ask: Daddy, what is that? At last, at the front door, we were face to face with the terrifying sound. Each gust of wind vibrated the weather-strip in the door, and the cause of the mystery was found. And I wedged the weather-strip so that it could not vibrate; I released it so that it could make the terrifying noise again. And between the opposed sides of my thumbs I stretched taut a strip of paper. I blew strong upon the paper. Thus I made a sound not unlike that at the front door. The youngster, smiling

and happy and unafraid, finished his supper, went soon to bed and to sleep, and since that night strange sounds and the lashings of the wind have brought no terror to him. Had that noise, so inexplicable and mysterious, not been explained to him he might to this day be driven into terror by a weird sound. Knowledge recognizes no specific mysteries. To be afraid is to be ignorant. And this episode illustrates another probable fact, to-wit, that one instinct, for example, fear, can not be dealt with successfully by an appeal to cold reason. If one instinct is to be subjugated it must be coerced by the liberation of another instinct that is more powerful. In the above instance an appeal was made to the little boy's innate curiosity instinct. He was encouraged to find out the cause of the strange noise. And the device, as you have seen, was successful. The tendency of the military recruit to be afraid and to run away from personal danger is overcome by an appeal to his instinctive patriotism—to his instinct to stand by the herd. And military officers tell me that this latter appeal is generally successful. Few soldiers behave cowardly.

May I cite another fear case: A traveling man of forty-odd upon his return to his home for the week-end went to his doctor on account of a sore throat. Illumination of the mouth revealed a large ulcer on the left tonsil. The doctor remarked: "Hello, Tom, that looks like a syphilitic ulcer." From that moment the patient was a wild, gibbering, apparently senseless maniac, and for five months he lived in hell. My repeated assurances that all the serological tests were negative fell upon deaf ears, because terror had overwhelmed and submerged his reason, and my approaches to his mind were all walled off by the insurmountable barrier that fear had thrown around him. But eventually the great emotional storm wore itself away, and he became rational again. And then he said to me that he had been scared all but to death.

And if you will pardon me I shall relate another fear circumstance that occurred in my own home: Another of my little boys cried as his mother was scrubbing the soil of Richmond from his grimy little hands at bed time. Who knows? Why, the soap hurt the sore on his finger. What caused the sore? A



dog had snapped at his hand. At that time the people of the city were almost in a panic on account of an epidemic of hydrophobia. The dog could not be located; we lived in anxiety and distress and suspense for two endless days and nights—and then we gave the little boy serum daily for twenty-one days—in order to allay our own fear. The boy had probably not been bitten at all.

Fear much oftener than necessity calls the doctor into the home. And how often do we minister to the terror of the family through the medium of some simple potion for the patient who needed nothing at all! I have little doubt that thirty or forty per cent of all patients who come to their doctors for diagnosis and treatment are disordered in their emotions rather than in their organs. But, mind you, please, I am not minimizing at all the gravity of these fear-states. Fear it is, I think, that creates alcoholic and drug addiction. Individuals so addicted are afraid of life. They resort to the use of some substance to allay their fear. The successful doctor is the doctor who can cope with such fears; the unsuccessful physician is the one who cannot handle them.

And if fear be bad for the individual what commotion does it cause in the multitude. Well, by appeals to it ignorant nurses tyrannize over their charges, senseless parents make neurasthenic wrecks of their offspring; fear places the lash in the hands of incompetent teachers; out of fear theology has created a devil and a burning hell; too many evangelists live and grow fat by the use of it; fear manufactures locks and keys, it builds jails and penitentiaries, it maintains an electric chair in Raleigh and in Richmond for the purpose of keeping you and me scared into good citizenship, it polices cities, it manages political campaigns, makes one citizen afraid of the disapproval of his neighbor; fear is synonymous with cowardice, intolerance, bigotry, cruelty, persecution, ignorance, superstition, hypocrisy, and deceit; fear it is that creates and maintains armies and navies; it causes panics, assembles mobs, dethrones reason, and lets loose chaos upon the world. And if possible fear does worse things still. It causes man to anthropomorphize a god of whom he lives in terror. It makes him busy in efforts to circumvent the government which he helped to create and in whose behalf he

labors and for which he is willing to die. It is a sad sight for man to become afraid of the formulations of his own mind. Does not the very word *subpoena* suggest punishment? Are not most of the communications that come to you from your own government accompanied by threats? But the cruelest and most senseless use we make of fear has reference to our attitude toward Death. How foolish and utterly senseless it is! Birth, life, death,—the commonest, the absolutely necessary, the most natural phenomena in the world! But with palls and chantings and solemnities and hushes and mysteries we encompass Death round about with Terror. And that I attribute to our bad theology. I wish theology would step along and keep pace even with our poor progress in medicine. But we are slowly and often reluctantly, we medical men, desquamating some of our ignorances and superstitions.

I must bring to an end my wonderings. What are we doctors going to do about these manifestations of fear? We must realize in the first place their existence, their terrible reality; the many and the devious ways in which they present themselves, and above all things we must learn, if we do not know it, that no human being wishes any other mortal to know that he or that she is afraid, because fear is looked upon as an exhibition of cowardice. Consequently, your patient or mine may complain of appendicitis, nephrolithiasis, indigestion, paralysis (what is hysteria but fear?), insomnia, tuberculosis, or pellagra, but of fear seldom. Not infrequently the symptoms are manifestations of a fear so old or so deeply buried that the patient is entirely unaware that causative factor is fear. There can be little doubt that many psychoses—genuine insanities—are only manifestations of overwhelming fear. In such a situation it will devolve upon us to drag the fear out of its hiding and into the full light of day.

How are we to do such miraculous things? By knowing that more fears are buried and concealed in human beings than there are germs in the universe, and by realizing ourselves that these buried terrors cause more suffering than all the bacteria that have ever been catalogued. We must be patient, charitable, hopeful, helpful, not condemnatory—and always we must remember that every mortal lives not only with his own body, with

his own material environment, but what is even more terrible—with all the trends and drives and urges and instincts tied up in him and in her that protected and perpetuated the primitive and the savage ancestors from whom we are descended. We were animals before we were humans; at times we are still undoubtedly more animal than human.

One light only can illuminate our own professional pathways and the pathways of our

patients. That light is Truth—"Know ye the truth and the truth shall make you free." From what? From fear, would be my guess. "Though I walk through the valley of the shadow of death"—many of us are called to walk in that valley with our patients—"I will fear no evil." What evil? Fear, again that would be my guess. Fear is the summation of all evils. Truth—Knowledge—is its relentless enemy.

## FACTORS UNDERLYING THE LIQUOR HABIT\*

CYRUS THOMPSON, M.D., Jacksonville

Equanimity and happiness are synonymous terms. Man loves happiness and hates misery; but his efforts to escape misery cause most of his unhappiness. We are prone to short-cut to happiness rather than to abide, to stand still and see the salvation of the Lord.

Somebody, for instance, has remarked how much of the misery of life is caused by the fear of death and of solicitous efforts to prevent it—the dying of preliminary deaths, if you please, since it may not be denied that who fears a thing suffers already the thing that he fears; when, as a matter of fact, dying is only once unavoidably necessary, and is then ordinarily a performance "dead easy" to accomplish. And, after all, dying is hardly so terrible as living, hardly so terrible as an unfixed, faithless life with all its pleasures and all its sorrows. As an obscure, nameless, minor poet has sung:

"The burden of being, O love, is not death:

The burden of being is living—

But there's joy in living with love at each breath,  
The having of love and the giving."

We have it on very good authority that perfect love casteth out fear. Love makes us happy as it makes us forget ourselves.

And yet the fear of death, of not living, of possible sickness, of uncertain bridges ahead of us—this cowardly fear, what a destroyer of life and of happiness it is! We go all our days in bondage through fear of death.

Right along with this as a source of human misery may be mentioned the fear of being alone. Eden is not Eden when you are by yourself. But a wilderness and companionship may be delightful. Walking on a holiday some 30 years ago with two congenial friends past Wake county jail, I remarked upon the terribleness of confinement. "Not at all," replied the wiser of my two friends: "If I had you and Edgar with me and a book or two, I had as lief be in jail as anywhere else."

So thought old Omar:

"A book of verse underneath the bough,  
A loaf of bread, a jug of wine, and thou  
Beside me singing in the wilderness,  
Ah, wilderness were paradise enow!"

Very early in the history of the race it was observed and remarked that it is not good for man to be alone—a feeling that moves the infant crying in the night, the man and the maid in the spring-time of life, the strong man in his prime, and all of us when the midday zest is gone and the shadows lengthen for evening's close. I look out upon the stars of the sky and am charmed to behold the glory of them, and how one star differeth from another star in glory, until I am staggered by the separateness of them forever! There is nothing else so terrible as this loneliness, this individualness, this loneliness of everything. To escape the terror of it, little cells federate into large organisms.

So countless quadrillions aggregated themselves into what you know as me, now munching happily on our fourth score and

\*Presented by invitation to the Ninth (N. C.) District Medical Society, meeting at Statesville, September 27th.

having many years dispensed sunshine to less fortunate groups. So was made this beautiful world, the modest moon, and the splendid sun. So originated the countless stars and universes of limitless space, happily singing and making music, the ancients said, which only the one happy God can bear,—happy because everywhere and with everything. Insects and birds flock together; fishes run in shoals; beasts are gregarious; men congregate, group into families and communities, and desert the country and build cities all because of loneliness and for companionship. There is no other so strong craving of the human soul as the craving for congenial comradeship. So to the average man solitariness is hell, while even servitude in company is tolerable living. It requires an exceptionally strong nature to stand contented alone, to be independent, to feel sufficient in itself. Even wise and equanimitous old Michel de Montaigne said, "Did I know, by good direction, where to seek any one proper for my conversation, I should certainly go a great way to find him out; for the sweetness of suitable and agreeable company cannot, in my opinion, be bought at too dear a price."

The more we lack strength, the more our loneliness, the greater our fear, and the more ready we are to attempt by any means to escape the loneliness and helplessness of ourselves.

To this sense of self-insufficiency we owe the best that we have in the world; our feeling of dependence is the parent of all our peace and all our progress; and from the same feeling of insufficiency comes most of the worst and most pitiable in human life.

The fear of pain and the disagreeable, how shall we make our escape or find ready help before the bitter things and the burdens of life—these are the problems that confront us, appall us, entangle and wreck us. For help in our weakness we turn to various material and immaterial stimuli.

So the factors underlying the liquor habit, so far as the individual is concerned, are not different from those that underlie other addictions. The habitues differ and their environments differ; but temperament and environment determine for each individual his form of intoxication.

It may be that your work, your friends, your children, your books and flowers suffice

for you. Fortunate, indeed, is the man who can escape from himself and find strength in his work—the blesseddest gift of heaven. Work is the comforter of the strong man as play—child's work—lifts the terribleness of life from children. It is the continual savior of the aged. Did you never notice how industrious old people become, and how miserable when increasing age and feebleness take their work from them? Work has become their habit, it is their stimulant and comforter and they die when they cannot follow it.

Another temperament without fortitude to suffer pain and be still, without health to enjoy what appeals to and satisfies the strong, seeks solace in some drug. So the weary of the day's toil, the depressed in spirit, the disappointed, the troubled without pain, and the idle convivial in his purposeless loneliness, seek victory o'er all the ills of life in inspiring, bold John Barleycorn! And if the will, the resultant of all conflicting emotions, forbids the use of patent nostrum, narcotic drug, or alcoholic drink, some simple faith, strong ideal, or sweet influence of religion may fill up the measure of another man's needs. So even the love of a woman may for a time hold a man from his drink:

"No! Saki—take the wine away!

I have no need of it today;

So drunk am I with adoration,

No longer have I any need

Of commonplace intoxication!

How should a man whose eyes may drink

Her beauty, like the Northern Star,

In a delicious meditation,

Remain contented any more

With common wine out of a jar?

No, Saki—take the wine away."

But the underlying factors are the same in every case; and the addiction, whatever the form of it, began in response to a sense of need. It grew with repeated effort to escape the disagreeable, to find the ready satisfying of your hunger, your feeling of insufficiency, your fear. And now your discontent is constantly recurrent, and you are bound by your intolerable longing; your discontent is a continual famine, a dry and thirsty land where no water is. You might have resisted the impulse at the first; but now your power to resist is perished through non-use of it. Your appetite, accustomed to satisfaction, like a spoilt child, is imperious now, and your habit



is become your will, the veritable controlling part of you.

This appetite which leads to enslaving habit may be hereditary in the make-up of the individual, or it may be acquired by him; and, when acquired, it is primarily due to defective training, to neglect or mismanagement in childhood. Of course, you have seen families of hereditary drunkards—a weakness of will to stand alone and resist a temptation, the heritage of ancestry as much as any other physical or mental characteristic might be. But you have seen also drunkards come out of sober and sane ancestry, and sober men from ancestry given to drink. For the sober man may “spoil” his child in the raising—may pet him, humor his whims, not rear him to endure hardships, or unreasonably provoke him, until he becomes, when grown up face to face with the world, unable to resist the temptation to relieve his depression and be rid of the disagreeable by the deceptive stimulus of alcoholics or drugs. And the man addicted to drink, on the contrary, may so teach his child to dismiss the disagreeable, to endure hardship, to acquire self-respect and self-control, that he becomes sufficient for life within himself without the aid of habit-forming stimulants or sedatives.

So the hereditarily unstable may be educated in childhood to equilibrium and saving strength, and the emotionally stable, on the other hand, may be literally spoiled by faulty training—*spoiled*, that is to say, robbed, pillaged, and plundered. In other words, the drunkard is made by his father or his grandfather, who may or may not have been given to drink—not consciously made, of course, but carelessly, criminally, and certainly, none the less. And sober men are made by right education in their childhood and youth.

I may be permitted to say in this connection that there is no more devouring sin in the land than this: That men and women mate and marry and beget children, selfishly contenting themselves with the pleasures of matrimony while they neglect their parental obligation to their offspring and to society through them. When parents neglect the training of their children, their children come up not much advantaged over illegitimate waifs, and such marriage is little better than fornication by consent of the law.

“The real solution of the liquor problem,”

it has been said, “is seen to rest finally in the moral equipment of the individual.” Those, therefore, who proclaim prohibition as the remedy for the liquor habit have need to broaden their propaganda to include not only the abolition of the traffic, but the realization of the divine necessity of wise family government for the training and the making of strong, happy, sober men. For the inalienable duty incumbent upon parenthood is the rearing of children to happy living and good citizenship.

If legislation may do something by way of removing a certain form of temptation, vastly more may be done by the wise regulation of the child's physical and psychic life, by the teaching of hygienic living for the making of strong bodies and self-respect for the making of strong souls.

Let us instill into the child courage and resolution, hardihood and high purpose, self-restraint, self-control and high ideals; teach these saving qualities into our children in their play (which is childhood's work) and in their work and their play, when they are grown older. And, above all, teach them till they know it, that there is nothing dishonorable about honest, helpful work, but the failure to find it and to do it.

Action in accordance with these thoughts is increasingly imperative in face of the increasing stress of life in the busy industrialism and soft pleasure-madness of today and tomorrow.

In what other way can we prevent that state of feeling, that sort of insanity, hereditary or acquired, which impels to the liquor habit, and not less to other ruinous addictions and defective mental states?

Let us begin with the child and his environment as the great underlying factors of the liquor habit. “The Kingdom of Heaven,” said Bouck White, “is the kingdom of self-respect”; and the kingdom must ever be not outside but within the man. May I quote a paragraph in conclusion?

“At the risk of wounding adult susceptibilities, I must repeat that not much can be done for this generation in the way of changing the moral bent of grown-up persons. The fate of the world is determined by the influences which prevail with the child from birth to seven years of age, certainly from birth to fourteen years of age. Such is substantially



the unanimous judgment of all living psychologists. All our problems go back to the child—corrupt politics, dishonesty, greed in commerce, war, anarchism, *drunkenness*, incompetence and criminality. We know now that much of our labor for the radical betterment of society is costly and fruitless. It is because we are working against nature. We

take the twig after it is bent and has stiffened into a tree. We take the brook after it has become a torrent. We take the fire after it has become a conflagration. God is teaching us in ways made costly by our ineptitude, *to begin at the beginning*, and to meet the demands of the situation by conforming to fundamental principles."

## PRINCIPLES OF TREATMENT IN ACUTE CRANIAL INJURIES\*

THOS. D. SPARROW, M.D., Charlotte

The literature of the past few years is peculiarly barren of new methods of handling head injuries. The increasing frequency of automobile accidents constantly forces every doctor to face the problem of diagnosing and treating skull fractures and intracranial injuries. His attitude toward these cases is of the utmost importance. I am emboldened, therefore, to present this summary for your consideration as a practical view of the subject. It shall not be my endeavor to discuss it from a theoretical aspect or to offer anything new, but to briefly present the generally accepted principles of the treatment of acute cranial injuries.

From the anatomical standpoint, it is important to remember that we are dealing with a soft, friable, highly specialized tissue completely filling a hard, inexpandible, bony, vaulted cavity and supported only by three enveloping membranes of varying strength. Within this soft tissue are four cavities or ventricles, in the two lateral of which is secreted, from the choroid plexus, a fairly definite amount of cerebro-spinal fluid. This fluid reaches the third ventricle through the foramina of Monro and the fourth by the aqueduct of Sylvius, then escapes by the small foramina of Majendie and Luschka into the subarachnoid space. A very small portion of it covers the brain and by far the larger amount remains around the cord. The lowest portion of the brain, the medulla, has its ventral surface resting on the basilar

groove of the occipital bone. It is, therefore, in a position to suffer from increased intracranial pressure.

A trauma of the skull may be of sufficient force to crush the vault with or without injury of the underlying brain, or the brain may be injured without fracture. The entire force of the blow may be transmitted to the base or to the opposite side of the skull. One of the branches of a middle meningeal artery or one of the sinuses may be torn with a resulting intracranial hemorrhage.

In the case of any patient brought into the hospital in an unconscious condition, and about whom only a meager history can be obtained, there are certain rules—I almost said axioms—which must govern the attitude of the attending physician.

(1) Every such case must be viewed as a possible, acute cranial injury until proven otherwise. Although obviously one of uremia, morphine poisoning, alcoholism, epilepsy, or what not, we are never justified in omitting a search for intracranial damage. Conversely, every case of obvious head injury should be carefully studied and observed until all other complications are definitely ruled out.

(2) Shock is always of prime importance and must receive immediate attention regardless of the subsequent treatment.

(3) The value of the x-ray, as an aid in diagnosis, must be taken into consideration, and any suspicious case is entitled to this examination. Especially is this true in children.

(4) A fracture of the skull, whether simple or compound, linear, gutter, of the

\*Presented by invitation to the Ninth (N. C.) District Medical Society, meeting at Statesville, September 27th.

vault or of the base, is of secondary importance. The brain damage is the chief concern.

The patient who has received a blow on the head may have a simple concussion or "acute cerebral anemia with temporary vasomotor paralysis." This condition has the following characteristics:

(a) At the time of injury there is a sudden, immediate unconsciousness;

(b) It is transitory, lasting from a few minutes to a few hours;

(c) The maximal effects are apparent at once and thereafter improvement immediately begins;

(d) There is no demonstrable pathology. The treatment is rest and that for mild shock. An operation is never indicated. If we could confine the term *concussion* definitely to these cases it would clear up much of the confusion attending the treatment of acute cranial injuries.

Any patient affected more severely has a graver condition or contusion or laceration of the brain. This brain damage may vary from large macroscopic laceration to small microscopic tears. As a result of the injury there begins an edema of the brain tissue. Kocher long ago described the phenomena which result from this edema. It might be well for us to briefly review his grouping. With the increase of edema and the consequent enlargement of the brain the cranial cavity becomes too small. The cerebro-spinal fluid is driven out as far as possible. This might be called the compensatory stage. If conscious, the patient complains of headache. As the edema progresses a venous stasis results. There is headache, vertigo, restlessness, excitement and delirium. This might be called the congestive stage. Unless relieved the arterial supply is infringed upon with a resulting anemia. Respirations become labored, the ophthalmoscope reveals paling of the margins of the disc and congestion of the vessels. There is a compensatory vasomotor reaction with a slowing of the pulse and an increase of tension. The medulla is obviously beginning to suffer. Should the edema continue, medullary collapse results with a failure of the arterial compensation, dilated pupils, rapid pulse, coma, Cheyne-Stokes respiration, death.

Compression can be distinguished from

shock by a careful observation of temperature and respiration. In compression there is an elevation of temperature and slow respiration and pulse. In shock the temperature is subnormal and the pulse and respiration rapid.

The successful treatment of compression is the real problem in head cases. It is imperative that more room be provided to accommodate the increased volume of the brain due to the edema or the volume of the brain must be decreased. We may attempt to provide more room by opening the skull through a subtemporal decompression. If this is done, care must be taken to prevent the brain from rapidly bulging into the wound and thereby causing additional trauma. Emptying of the ventricles by puncture may materially aid in preventing this. The mere draining of a small quantity of cerebro-spinal fluid is not sufficient. Again, the problem may be attacked by repeated lumbar punctures. If the pressure around the cord is relieved too rapidly, there is a possibility of a medullary compression with sudden death as has been seen following lumbar puncture in case of brain tumor. Neither of these methods attacks the primary source of the pressure, which is the edema of the brain tissue. The third method, and by far the most logical one, is to attack the edema itself. This can be done by the hygroscopic action of a non-dialyzable salt. Magnesium sulphate is the chief one used, and its employment has given satisfaction in many hands. It has been proven that its use will definitely decrease the brain volume. Its effectiveness is limited only by the presence of severe shock and in the cases which have sustained a severe blood loss.

From a practical standpoint the following procedure, for a patient who has received a severe head injury, has been outlined. Until the systolic blood pressure is above 60, little should be done except in the treatment of shock. Heat is applied and one-third ampule of pituitrin is given. As soon as reaction begins, the use of magnesium sulphate is started. It has been suggested that this drug is much more effectual in preventing or controlling a compression than in relieving an already water-logged brain. Two ounces of crystals in six ounces of water may be given by mouth, or three ounces of the crystals in

six ounces of water by rectum or ten c.c. of a ten percent solution intravenously. This treatment may be repeated every four hours. If lumbar puncture is used the pressure should be reduced only one-half if it is more than twice the normal of 10 mm. This may be done at eight hour intervals. The magnesium sulphate will usually control or prevent the compression. If it fails, then and then only, should a subtemporal decompression be done. This is seldom necessary within twenty-four hours.

Hemorrhage may be extradural, intradural and intracerebral. Extradural hemorrhages are usually due to tears of one of the branches of the middle meningeal artery or from the longitudinal sinus. Classical symptoms of initial concussion, lucid interval, and oncoming coma make the diagnosis clear. Operation is the method of treatment with ligation or packing. If there are no localizing symptoms, a bilateral operation is justified.

The subdural hemorrhages are usually small and require no definite treatment.

The intracerebral hemorrhages are part of a grave brain damage and operation is not indicated.

In compound fractures of the vault the wound should be carefully debrided, the hemorrhage stopped and the patient put to bed to recover from shock. As soon as his condition permits, the fragments should be elevated and the dura closed, if possible.

Depressed fractures should be elevated. Linear fractures require no treatment but the patient must be carefully observed for signs of hemorrhage or compression.

Fractures of the base require no specific treatment in themselves. Injury of the 4th, 6th, 7th, or 8th nerves often clears up spontaneously. The problem of treating fractures of the base is the problem of treating compression.

Finally, it must be noted that operations in cases of acute cranial injuries, have a very definite but limited field. We believe that operations are only indicated in: (1) Compound and depressed fractures after the patient has recovered from shock. (2) Extradural hemorrhage. (3) As a decompressing measure after magnesium sulphate has failed.

#### BIBLIOGRAPHY

Elsburg, C. C.: *Surg., Gyn. and Ob.*, 23:153, Aug., 1916.

Weed and McKibbin: *A. J. Phys.*, XLVIII, 512-531, 1919.

Wilensky, A. O.: *Fracture of Skull with Special Reference to its Neurological Manifestations. Ann. Surg.*, Vol. 70, 404, Oct., 1919.

Hadden, R. L.: *Jour. A. M. A.*, 73:983, Sept. 17, 1919.

Le Count, E. R., and Apfelbach, C. W.: *Pathologic Anatomy of Traumatic Fractures of Cranial Bones and Concomitant Brain Injuries. J. A. M. A.*, Vol. 74, 501, Feb. 12, 1920.

Moody, W. R.: *Traumatic Fracture of Cranial Bones; Clinical Considerations, With Especial Reference to Extradural Hemorrhage. J. A. M. A.*, Vol. 74, 511, Feb. 21, 1920.

Wilensky, A. O.: *Fractures of Cranium, Association of Fever With Fractures of the Skull. Am. J. Med. Sc.*, Vol. 159, p. 402, March, 1920.

Sachs, Ernest and Belcher: *J. A. M. A.*, 75:669, Sept. 4, 1920.

Cushney, H., and Foley: *Pro. Soc. Exper. Biol. and Med.*, 117-117, 1920.

Foley and Putman: *A. J. Phys.*, LIII, 464, 1920.

Nichols, E. R.: *Fracture of the Cranium. S. Clinics N. America*, Vol. 1, 589, June, 1921.

Eagleton, W. P.: *Importance of Early Diagnosis and Operative Treatment of Fracture of Skull, With Chart of Clinical Classifications and Treatment, and Guide for Neurologic Examination. Arch. Surg.*, Vol. 3, 140, July, 1921.

Dowman: *J. A. M. A.*, 79:2212, Dec. 30, 1922.

Sachs, E.: *Fractures of the Skull. Southern Med. J.*, Vol. 15, 825-828, Oct., 1922.

Apfelbach, C. W.: *Studies in Traumatic Fractures of Cranial Bones; I, Edema of Brain; II, Bruises of Brain. Arch. Surg.*, Vol. 4, 434-450, March, 1922. (Illus.)

Fay, T.: *J. A. M. A.*, 80:1445-1448, May, 19, 1923.

Teachenor, F. R.: *Pneumoventriculi of Cerebrum Following Fracture of Skull. Ann. Surg.*, Vol. 78, 561-567, Nov., 1923. (Illus.)

Sachs, E.: *Diagnosis and Treatment of Head Injuries. J. A. M. A.*, Vol. 81, 2159-2161, Dec. 29, 1923.

Fay, T.: *J. A. M. A.*, 82:766-769, March 8, 1924; *Surg. Clinics N. A.*, 4:295-302, Feb., 1924.

Cohen: *British Medical Journal*, 1:420-421, March 8, 1924.

Grant, F. C.: *Surg. Clinics N. A.*, 4:295-302, Feb., 1924.

Brown, H. P., Jr., and Strecker, E. A.: *Some Observations on Treatment of Fracture of the Skull. 100 Cases from Pennsylvania Hospital. Ann. Surg.*, Vol. 79, 198-205, Feb., 1924.

Taft, A. E., and Strecker, E. A.: *Psychosis Associated with Trauma of the Head; Case of Trauma Sustained in Infancy and Determining a Later Developing Tumor. Arch. Neurol. and Psychiat.*, Vol. 14, 658-665, Nov., 1925; *Hypertonic Solutions with Particular Reference to Magnesium Sulphate and Its Value in Certain Types of Brain Injury. Sou. Med. Jour.*, 351-355, 1925.

Maclaire, A. S.: *Treatment of Acute Traumatic Craniocerebral Injuries. Ann. Surg.*, Vol. 83, 741-754, June, 1926.

Johnson, J. W. G.: *Cranial and Intracranial Injuries; Study of 154 Consecutive Cases admitted to the Medical Service of Montreal General Hospital during Period June, 1920, to December, 1923. Internat. Clin.*, Vol. 2, 266-278, June, 1926.

Hanson, E. L.: *Complete Course of Events in Fracture of Base of Cranium. J. A. M. A.*, Vol. 86, 1689-1690, May 29, 1926.



Carter, B. N.: Diagnosis and Treatment of Fracture of the Skull as Developed in the Cincinnati General Hospital. *Annals of Surg.*, 182-195, 1926.

Dowman, C. E.: Head Injuries. *Jour. Sou. Med. Assoc.*, Vol. XX, 448-452, June, 1927.

Troell, A., and Holmstrom, P.: Importance of Roentgen Examinations in Diagnosis. *Svenska Lak-Tidning*, Vol. 24, 409-412, April 1, 1927; also *Annals Surg.*, Vol. 86, 502-504, Oct., 1927.

Shemely, W. G., Jr.: Basilar Fracture with Seventh and Eighth Nerve Involvement; Case, *Laryngoscope*, Vol. 37, 502-507, July, 1927.

Shemely, W. G., Jr.: Basilar; with Temporal

Bone Involvement. *Laryngoscope*, Vol. 38, 312-321, May, 1928.

Woods, A. H., and Meleney, F. L.: Fracture into the Frontal Sinuses with Discharge Cerebrospinal Fluid for Over a Year; Report of Case with Death from Pneumococcus Meningitis. *Arch. Neurol and Psychiat.*, Vol. 19, 694-698, April, 1928.

Rand, Carl W., and Neilsen, Johannes, M.: Fracture of the Skull: Analysis of One Hundred and Seventy-one Proved Cases. Diagnosis and Treatment of Associated Brain Injury. *Archives of Surgery*, Vol. 11, 434-458, 1925.

## IMPORTANCE AND INTERPRETATION OF KIDNEY FUNCTION TESTS\*

FRED M. PATTERSON, M.D., Greensboro

Kidney function tests are invaluable adjuncts in clinical work and are doubly important in urology, particularly so in patients suffering with urinary obstruction.

The estimation of the renal function is most essential from the standpoint of treatment, diet, decision for further investigation, indication or contra-indication for operation, and prognosis.

The kidney tests now used are:

- (1) the indigo-carmin,
  - (2) the Mosenthal,
  - (3) differential specific gravity,
  - (4) Albarran's polyuria test,
  - (5) and the phenolsulphonephthalein of Geraghty and Rowntree.

Indigo-carmin finds its principal use in the identification of the orifices in badly distorted bladders and in suspected cases of renal tuberculosis.

The Mosenthal test-meal for renal function is practical and valuable and is based chiefly upon the variations of specific gravity and volume at different periods within twenty-four hours. Fixation of specific gravity and volume denote impaired kidney function. This test is more valuable in the nephritides than in the obstructive conditions of the urinary tract.

Differential specific gravity is of great value as an index of kidney function. It is simple and easy to do as compared with other tests.

The so-called Albarran's polyuria test is an

extremely simple method of estimating the kidney function. It consists in obtaining a specimen of the patient's urine in the morning and then have him drink 1500 c.c. of water. The specific gravity of both specimens is determined. In the event of serious renal disease the gravities of the two specimens is almost the same. In health the morning specimen will have a comparatively high gravity while the dilution occasioned by the large fluid intake will bring about a much lower specific gravity.

The phthalein test is probably more generally used and more acceptable. It is considered by many as ideal because it is innocuous, and the dye, with the possible exception of about 10% that is eliminated by the intestinal tract, is excreted entirely by kidneys in health with uniformity in appearance time and rate of excretion. It is rapid, 60-85% of the drug passing out in the urine within two hours.

The appearance time of the dye is of no diagnostic value, but should be used simply to determine the time of collection. Of course it is true in cases of diffuse renal disease that the appearance time is usually considerably delayed. In many cases, however, such as polycystic kidney, infantile kidney, or in any condition in which there is a small amount of normal renal tissue it may be perfectly normal. The phthalein indicates the amount of excretion or the amount of work the kidney is doing today, but gives us no data as to the amount of metabolic waste products that are being retained. The blood chemistry, par-

\*Presented to Ninth (N. C.) District Medical Society meeting at Statesville, September 27th.



ticularly the estimation of blood urea nitrogen and creatinine, yields valuable information. There may be, however, a diminished functional output with normal blood urea nitrogen, but with a high blood urea nitrogen the function is practically always diminished. This is well illustrated in the base below:

Man, aged 78, suffering with acute retention due to an enlarged prostate was seen October 5, 1927. The total phthalein output at this time was 34% with a delayed peak. The urea nitrogen was 20 mgs. per 100 c.c. of blood. The patient's bladder was gradually decompressed and a retention catheter inserted. Tests were made at intervals which showed the following:

Blood Urea Nitrogen 18 mgs.	October 11	
	Intravenous Phthalein Collected at 30 Min. Intervals	
	1.	12%
	2.	22%
	3.	12%
	4.	10%

56% Total 2 hrs.

Blood Urea Nitrogen 18 mgs.	October 22	
	Intravenous Phthalein Collected at 30 Min. Intervals	
	1.	22%
	2.	24%
	3.	12%
	4.	8%

66% Total for 2 hrs.

Oct. 27. Perineal prostatectomy,—uneventful recovery.

The intravenous use of the dyes should be the preferred method. It has distinct advantages over the intramuscular use for the following reasons:

1. There is poor absorption if the dye gets into the fascia because its entrance into the blood stream is delayed.
2. There will be poor return if the myocardium be damaged because of chronic passive congestion.
3. There is probability of less discomfort if given skillfully in the vein.

Experimental studies made by Shaw at the Brady Urological Clinic and clinical studies made by Crowell of Charlotte have shown us that it is better to make the collections of urine while doing the phthalein at thirty minute periods than at hourly intervals, because more accurate information can be obtained of renal function by plotting the curves of elimination. For example, in cases of parenchymatous nephritis and cardio-renal disease the total two hour phthalein output may be normal, but wide variations from

the normal curve of excretion may be found when specimens are collected at more frequent intervals. The normal curve shows an early high peak, a rapid decline, and a small dye output at end of test. A delayed peak with a gradual decline even though the total two hour output be fairly good indicates that the kidney has poor reserve power and warns us against operation in cases of hypertrophy of prostate, though clinically the patient appears to be a good operative risk. It is better to get the patient in the "positive phthalein phase" regardless of the total phthalein output before operation is advisable. Examples:

Case 1

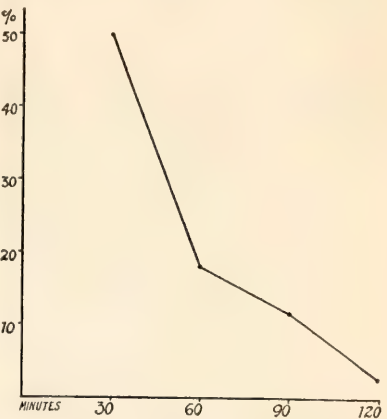


Chart showing a normal curve of phthalein elimination with the characteristic early peak, a rapid decline and a small dye output at end of test. Total 2 hr. output 78%. This shows the patient to be in the "positive phthalein phase."

	Intravenous Phthalein				
	1st. 30 min.	2nd. 30 min.	3rd. 30 min.	4th. 30 min.	
Case 1.	50%	18%	8%	2%	Positive phase
Case 2.	5%	20%	24%	15%	Negative phase

(This is another interpretation of Case 1 and 2 shown in the curves above.)

It is important to determine whether the diminished functional output and the excess of nitrogenous products in the blood are due to an organic lesion of the kidney or to a mechanical urinary obstruction such as ureteral calculus obstructing the upper urinary tract, or enlarged prostate obstructing the lower urinary tract; the latter preventing the

Case 2

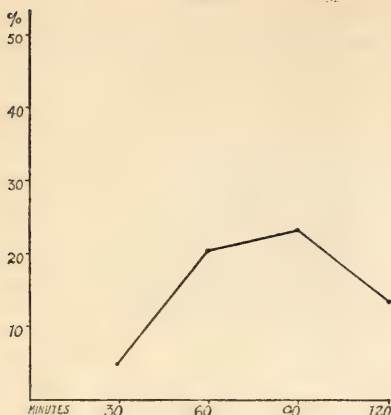


Chart showing a phthalein curve in which the peak is delayed and a relatively high output at end of test. Total 2 hr. elimination 54%. This shows the patient to be in the "negative phthalein phase."

kidney from excreting because of the back pressure. An interesting case may be cited here:

Woman, age 38, was seen March 24, 1928, suffering from ureteral calculus (Rt.), pyonephrosis (Left) (*B. coli*), and had been in anuria for several days. Tests carried out showed the following:

March 25

Blood:	Per Cent Phthalein:
Non-protein Nitrogen 130 mgs.	1. 0%
Preformed Creatinin 3.7 mgs.	2. Non-mensurable trace
	3. Non-mensurable trace
	4. 1½% (approximately)

Treatment consisted in bilateral ureteral catheterization permitting catheters to remain for 48 hrs.; purgation, sweating, and forcing of fluids, etc. Tests carried out on March 30, 1928 showed a total phthalein output of 16% and a total non-protein nitrogen of 92 mgs. per 100 c.c. of blood. April 11, 1928; per cent phthalein 22½%; April 16, 1928, 30%. In each of the above phthalein tests the peak was delayed. On May 30, 1928 the per cent phthalein was 31½% with an early peak and a total non-protein nitrogen 36 mgs. per 100 c.c. of blood.

#### CONCLUSIONS

It should be perfectly clear that laboratory findings aid but do not supplant clinical observations. A single urological test

gives us nothing definite just as a white blood count alone aids in making a diagnosis of acute appendicitis, but does not tell us the condition of the appendix. The clinical picture together with the blood pressure and laboratory data should be considered before making final deductions.

Kidney function tests play an important part in the preliminary treatment of urinary obstruction particularly of prostatic hypertrophies and urinary calculi, and the surgeon who fails to make use of them is deprived of an important aid in the improvement of bad risks. The time of operation is absolutely indicated by the phthalein curve.

The total phthalein output may be fairly good, if collected at hourly intervals, and yet the kidney may be badly diseased. The early peak and rapid decline of the phthalein elimination, or the positive phase, as a kidney function test is most valuable.

(NacNider says that "the phthalein test is too sensitive because of reduction in output without or with very little other evidence of renal dysfunction.")

#### REFERENCES

- Shaw, E. Clay: The Journal of Urology. Vol. 13, No. 6, June, 1925.
- Crowell, A. J.: The Curve of Phenolsulphone-phthalein Excretion; Its Interpretation and Clinical Use. Southern Medical Journal, Vol. 20, April, 1927.
- Keyes and Mohan: Excretion of Phenolsulphone-phthalein After Intravenous Injection and Ureteral Catheterization. Transactions on Urology of the American Medical Association, 1921.
- Rowntree, L. G., and Geraghty, J. T.: Jour. Pharmacol. and Exper. Therap., 1910, 1, 579.
- Patch, Frank S.: The Importance of Biochemical Tests in Patients Suffering From Prostatic Enlargement. The Canadian Medical Association Journal, Sept., 1920.
- Snowden, R. R.: Archiv. Intern. Med., 1921, 28, 603.
- Young, Hugh H.: Practice of Urology. 1926, Vol. I, 48, 49, 50.
- Thomas, B. A.: J. A. M. A., Jan. 18, 1913, Vol. 60, pp. 185-188.
- Braasch and Kendall: Journal of Urology, 1921, 5, 127-132.
- Felix Legueu and Edmond Papin: Etude du Fonctionnement de Chaque Rein; Precis D'Urologie, Chapitre II.



## TREATMENT OF CHRONIC POSTERIOR URETHRITIS PROSTATIC HYPERTROPHY AND ALLIED CONDITIONS BY ELECTRO-THERAPY\*

C. H. PHILLIPS, M.D., Thomasville

I will not enter into the discussion of neoplasm of the prostate and advanced forms of hypertrophy with secondary changes in urine and bladder. These conditions belong to the realm of surgery. But, as the scope of this paper will have to do with simple prostatic hypertrophy as well as the irritable conditions preceding it, I feel that it would be well at this point to express my views regarding the pathology of hypertrophy, because the term *hypertrophy* is rather a misnomer.

True hypertrophy is only an enlargement or increase of the normal constituents of a part. In the case in question, we have not a true hypertrophy, but an accumulation of fibrous tissue, due to the inflammatory process, interposed between the glandular elements and by pressure reducing them in size and number. The more proper term then would be *inflammatory enlargement* of the prostate.

If the conditions preceding prostatic hypertrophy were properly treated much of the after trouble would be avoided. Chronic posterior urethritis, prostatorrhea, hypersensitiveness of the urethra and prostatic stricture are the more important lesions which eventually lead to the so-called prostatic hypertrophy. There are few classes of diseases so serious in nature and so difficult to treat as affections of the prostate. The site of the lesion, the anatomical structure of the urethra, the delicate functions and sensitiveness of adjacent tissue all combine to make any operation on those parts extremely difficult.

DuBois-Reymond observed in his experiments that heat coagulates the muscle plasma and brings about an acid condition. We know today that the positive pole of a continuous current attracts oxygen from the body fluids, and that oxygen is an acid maker. What is the significance of this acid condition? It is not new to you, because it was discovered as far back as 1859 that the beginning of death of any tissue, nerve, or

muscle is marked by a progressive acidity and subsequent coagulation of plasma. It is also a well known fact that all overactive conditions are alkaline, and that you do not have pain with an acid condition. Some one may bring up the question of rheumatism, which some of us may have been treating upon a wrong pathologic conception for many years. But the deposit in articular rheumatism is not uric acid but urate of sodium, and sodium urate is not an acid but an alkali.

Hypersensitive urethra, with posterior urethritis is usually one of the sequelae of gonorrheal infection. Prostatic disease is far more deleterious in its effects than is usually imagined, and it is one of the most frequent causes of psychologic impotence. The treatment of these conditions is affected by the introduction of a hollow hard rubber perforated urethral sound, the applicator in which is well wrapped with cotton, saturated in normal salt solution and attached to the positive pole of the galvanic current, the negative pad is upon the abdomen. A current strength of ten milliamperes is maintained for ten minutes and repeated every fourth day. This method of treatment has given satisfactory results in my hands.

In treating an enlarged prostate it should be remembered that there is a loss of tone of the detrusor muscle of the bladder. The function of this muscle is to raise the base of the bladder to a level of the prostatic urethra so that the bladder may entirely empty itself. In prostatic hypertrophy, the floor of the urethra is higher than normal and the detrusor muscle fails to do its work; consequently the back part of the bladder sags, residual urine accumulates and we have an ammoniacal decomposition. So as much depends upon restoring the tone of the detrusor as treating the enlargement. To accomplish this we introduce Neiswanger's urethral electrode well loaded with a solution of potassium iodide. The electrode is attached to the negative pole of the galvanic current, with the positive over

\*Presented to Ninth (N. C.) District Medical Society meeting at Statesville, September 27th.

the abdomen. A flow of ten milliamperes is maintained for ten minutes. The purpose of this part of the treatment is to utilize the softening, liquefying, disintegrating effect of negative galvanism and also to deposit iodine in the gland. The iodine being electro-negative, it has an affinity for the positive pole. Now we switch from galvanic current on the universal mode to the interrupted faradic current for five minutes longer. This massage not only gives tone to the detrusor, but stimulates the absorbents and causes them to take up the products of decomposition set free by the first operation.

The second part of the treatment, that of the reduction of the hypertrophy, is given about two days later by the introduction of Neiswanger's rectal electrode well up into the rectum until it covers the prostate. The electrode is now attached to the fountain syringe

which contains a normal salt solution, the temperature of which should be 125 degrees F. The anode is attached to the electrode with cathode over the abdomen. The electrode is now allowed to fill two-thirds full of the saline solution, current is turned on and maintained at 30 or 40 milliamperes for ten minutes, and repeated about 3 times a week. This method gives most satisfactory results in the reduction of hypertrophy. Especially so in the enlargement in old men without a great deal of inflammation. A man 65 years of age who had to be up for ten or fifteen times at night, and who had been able to void but very little without the aid of a catheter for a year, was given twenty treatments, after which he passed his urine normally, a residual amount of only two or three drams remaining.

---

## THE DIAGNOSIS OF EYE, EAR, NOSE AND THROAT CONDITIONS FROM THE STANDPOINT OF THE DOCTOR IN GENERAL PRACTICE\*

GLENN J. TYGETT, M.D., Statesville  
Davis Hospital, Department of Otolaryngology

It is obviously impossible to cover the entire field within these few minutes at one's disposal; therefore only a few of the acute conditions, which, if not diagnosed early and treated correctly, will most likely result in disaster, will be taken up. It is not assumed that the physician who must cover the entire field of medicine has either the time or the equipment to resort to the more technical diagnostic procedures available to the specialist. We will attempt to emphasize the subjective and objective symptoms which the physician is able to elicit in his usual office examination.

### EYE

What ocular symptom-complex is most frequently diagnosed as a harmless, self-limiting disease and, yet, proves later to be a serious involvement of the deeper structures of the eye resulting in marked impairment of the

vision or total blindness? This, I think you will agree with me, is what we might term, for lack of diagnosis, an "inflamed eye," and which we are prone to pass on as an acute conjunctivitis. Fortunately that diagnosis is often correct, but unfortunately it frequently is not, and the usual prescription for one of the silver preparations acts only as a placebo until the patient is well on the road to permanent loss of vision. What are the more serious conditions which the physician should think of when he sees a case resembling an acute conjunctivitis? Among many others, he should especially think of a foreign body, the possibility of a gonorrheal conjunctivitis, corneal ulcer, interstitial keratitis, acute iritis, and acute congestive glaucoma.

Foreign body is mentioned, not only because of the frequency with which it occurs and the possible serious consequence if neglected, but also because of the frequency with which it is overlooked. Numerous cases present themselves in which the patient has never

---

\*Presented to Ninth (N. C.) District Medical Society meeting at Statesville, September 27th.



suspected the presence of a foreign body. The history so given may be to the effect that the eye was found to be inflamed and filled with secretion when the patient awakened in the morning. This story, together with the marked conjunctival congestion, may lead the physician into assuming that he is dealing with an ordinary acute conjunctivitis which will soon subside under appropriate treatment. Every case of this type should be carefully scrutinized, careful examination being made especially of the cornea and the conjunctival surfaces of both lids. With the aid of a dark room, a good artificial light, a condensing lens,—and a magnifying glass if desired—the examiner can soon satisfy himself as to the presence or absence of a foreign body within the eye, and insure his patient against the frequent serious sequelae attendant upon the continued presence of one there.

Gonorrheal conjunctivitis may occur in the adult or new-born. The picture is usually a violent one; there usually occurring great swelling, redness and tenseness of the lids. The conjunctiva of the lids and fornix is swollen and reddened. There may be marked chemosis of the ocular conjunctiva. Profuse purulent or serous secretion may be present. The important thing for one to remember is the possibility of a gonorrheal infection. The objective findings, together with the history of the case, and the presence of gonococci in a smear will make the diagnosis easy.

Corneal ulcer, in spite of the fact that it is one of the most easily diagnosed of the affections of the eye, is very frequently overlooked. The patient may come in complaining of pain in the eye, photophobia, profuse lacrimation, and blepharospasm. He may or may not give a history of injury to the cornea, of foreign body, or of disease of the lids or deeper structures. There may or may not be a grayish infiltration of a circumscribed portion of the cornea, around which there is marked congestion, with, perhaps, an accompanying conjunctivitis, or even an iritis. If the ulcer is superficial, as often happens, the cornea may be transparent, and an ordinary inspection fail to reveal the presence of an ulceration. It is the frequent presence of this latter condition that renders it advisable to instill a two per cent solution of fluorescein into every eye where there is a possible de-

nudation of the cornea. After instillation, the eye may be flushed with boric solution, and on examination if there is an ulcerated area on the cornea, it will be stained green. This is an easy and effective method of detecting the presence of denuded areas on the cornea, and its use should be more widely practiced.

Interstitial keratitis is essentially a disease of the young, occurring principally between the ages of five and fifteen, but which may occasionally occur in adults. Both eyes are usually involved. The subjective symptoms vary according to the stage and intensity of the disease, and usually consist of pain, photophobia, lacrimation, and interference with vision. The objective symptoms, too, vary with the stage and the portion of the cornea in which the affection starts. Usually, however, by the time the physician sees the patient the deeper layers will be densely stippled with grayish areas and the iris may only be seen with difficulty. The surface of the cornea becomes steamy and may resemble ground-glass in appearance. Deep-seated blood vessels will be seen entering the cornea at the limbus. It is estimated that about ninety per cent of these cases are due to inherited syphilis, and so a careful examination should be made for the usual signs of this disease, including Hutchinson's teeth, saddle nose, scars in and at the angles of the mouth, peculiar conformation of the skull, enlarged cervical lymph glands, and often impaired hearing. The Wassermann is usually positive and completes the diagnosis.

Acute iritis and acute congestive glaucoma will be treated together, not only because they are often mistaken one for the other, but because they are probably more frequently diagnosed as acute conjunctivitis and treated as such. Relief from these two serious conditions can only be obtained by correct and vigorous treatment; and to treat either as an acute conjunctivitis leads only to inevitable partial or complete loss of vision. Acute iritis and acute congestive glaucoma are conditions which should be treated only by the oculist, and so our purpose will be principally to emphasize the symptoms and objective findings that will enable the physician to differentiate them from an acute conjunctivitis. The presence, intensity, and location of pain is an important diagnostic symptom. A patient with an acute conjunctivitis may

complain of a hot gritty feeling confined to the eyes, or to the particular eye involved.

In acute iritis or acute glaucoma there will be more or less severe headache with pain radiating along the forehead or temple. The pain of iritis is usually worse at night. Conjunctivitis is usually accompanied by more or less muco-purulent discharge and the lids often stick together in the morning; while in acute glaucoma and iritis there is profuse lacrimation but no discharge. Particular attention should be paid to the size and shape of the pupil.

In acute conjunctivitis it will be found to be normal, while in acute iritis it is small, contracted and sluggish; and in acute congestive glaucoma it is dilated, oval and practically immobile. In acute conjunctivitis the vision is normal unless interfered with by the secretion, while in the two other conditions mentioned there is marked diminution of vision.

In acute iritis the iris is dull and discolored, but it may also be discolored in glaucoma, and the periphery pushed forward giving a shallow anterior chamber. In acute conjunctivitis the cornea is clear; in acute glaucoma it will appear cloudy and steamy; and in acute iritis there may be some punctate deposits on the posterior surface which will not be visible except on special examination.

The intensity, location and color of the injection is of particular diagnostic significance. The injection in acute iritis is circumcorneal, consisting of a pink zone of fine vessels surrounding the cornea, and fading as it approaches the periphery. In acute conjunctivitis the injection is more red in color, is more intense at the periphery and fades as it approaches the cornea. With the aforesaid objective and subjective symptoms in mind, the physician should with a reasonable degree of certainty be able to differentiate an acute conjunctivitis from the two more serious conditions. Of course, as in all other diseases, one should remember that all cases do not present the classical picture, and that there are many cases which will baffle the most experienced oculist.

It is certainly not too dogmatic to state that one should never treat an inflamed eye as an acute conjunctivitis without further investigation;—if the patient complains of headache; if there is dimness of vision; if

there is any change in the size, shape or mobility of the pupil; if any change is noted in the color or position of the iris; if there is any change in the transparency of the cornea; if a pink or violet circumcorneal injection be present; and if careful examination has not been made to exclude the presence of a foreign body.

#### EAR

The realm of ear disease is so large that time and space permit only a brief mention of two or three of the more common acute conditions.

Perhaps one of the most important things the physician should remember is the prevalence of high fevers in children due to acute otitis media. The classical course is an acute agonizing pain in the affected ear, usually following a coryza or acute infectious disease and accompanied by marked rise in temperature and more or less prostration. On examination the drum membrane is red, the normal landmarks are gone, and there may or may not be bulging. These typical cases hardly deserve discussion, since the symptoms are so marked that there is little danger of their being overlooked. It is the so-called quiescent cases that so frequently are not recognized; the patient is examined and treated for everything except an ear involvement. Perhaps two cases which were so remarkably parallel, and occurring in the writer's own practice during the last few days, will illustrate. Both patients were girls about seven or eight years old, who had been running a temperature from 102 to 103 degrees for four or five days. Their family physicians had gone over them repeatedly and thoroughly, doing urinalyses and careful chest and abdominal examinations. No cause being found for the continued high fever, they were referred to the ear, nose and throat department of the Davis Hospital for aural examination. Past history was negative as to previous ear trouble, and recent or remote nose and throat involvement. Both were intelligent girls, and stated that they did not at that time, and never had been conscious of any pain in either ear. Nose and throat examinations were negative. In both cases, however, there was slight redness of the posterior half of the left drum membrane. The light reflex was present in one case but not in the other; the other normal landmarks

were all present. In the absence of all subjective symptoms the objective findings seemed too meager to justify an incision of the drum membrane. Both patients were sent home to return the next day for observation. They both returned with no abatement of the high temperature, and yet no pain over the ear or tenderness over the mastoid. In fact both patients seemed well and comfortable in every way except for their temperatures, which were ranging around 102 to 103 degrees. Incision of the drum membrane was performed in both instances. Their temperatures were normal the following morning and have remained so since. A slight discharge persisted in one ear for a few days but soon cleared up.

These cases are eloquent testimony to the fact that there may be serious middle ear involvement without aural pain, and that the physician should make a careful examination of the ears in every case of unexplained rise of temperature in children.

Two other acute aural conditions, whose differential diagnosis may often cause some embarrassment, are acute mastoiditis and furunculosis of the external auditory canal. I think everyone is alert to the fact that acute mastoiditis, if it does not subside within a few days, requires surgical intervention. It is no pleasant experience, however, to prepare the minds of the patient and family for a mastoid operation and then find on further investigation that it is only a boil in the external auditory canal.

Furunculosis of the canal may produce swelling behind the ear that closely simulates that of an acute mastoiditis. The history is often of great value. Acute mastoiditis usually follows an otitis media, and the patient may give a history of aural discharge. It should be remembered, however, that an aural discharge may be the exciting cause of a furunculosis, and also that an acute mastoiditis may be present without a history of either middle ear involvement or aural discharge. The inspection of the drum membrane, if possible, lends further aid in that it corroborates a diagnosis of mastoiditis if perforated or shows other signs of suppurative otitis media; if normal in appearance, the evidence favors furunculosis. Manipulation of the auricle and pressure on the tragus causing movement of the fibro-cartilaginous canal

usually cause excruciating pain in cases of furunculosis, whereas in cases of acute mastoiditis there is absolutely no pain caused by this procedure. The usual pain elicited, in cases of acute mastoiditis, by pressure over the mastoid tip, postauricular sulcus and emissary vein is not present if the swelling be due to furunculosis of the canal.

If the physician will be careful to make the pressure directly over these cardinal points, and in such a way as not to disturb the position of the auricle, this will be found to be a valuable diagnostic procedure. Finally it may or may not be possible to examine the canal minutely with a probe and to determine a given area of localized tenderness due to furunculosis; or to detect a sagging of the posterior canal wall due to mastoiditis.

#### THROAT

The most frequently encountered acute throat conditions are acute tonsillitis, acute pharyngitis, acute laryngitis and diphtheria. The first three conditions mentioned are easily diagnosed and may be dismissed without comment. Diphtheria can be placed in the same category if it is a typical case. Unfortunately, however, a great many cases do not have the typical diphtheritic membrane, and so are treated as acute tonsillitis until the opportune time for the administration of diphtheria antitoxin is passed. It is a fact, often repeated, perhaps, but too infrequently heeded, that a culture should be taken in every acute sore throat. There are many cases in which it is absolutely impossible to differentiate between diphtheria and acute tonsillitis without resorting to the laboratory.

In conclusion, I should like to say a few words relative to hoarseness, not so much regarding the symptom as a manifestation of acute disease as particularly those cases where the hoarseness persists over a period of time. A great many merely develop into a chronic laryngitis, which subsides on proper treatment and removal of the etiologic factor. A large percentage, however, are not destined to terminate so satisfactorily. It is this type of case that must be diagnosed early and treated energetically if a cure or improvement is to be expected; and it frequently happens that these cases, with their apparently harmless manifestations, offer the physician his



opportunity for most invaluable service. A definite diagnosis may be impossible without tissue section and more expert laryngoscopic examination, but the recognition of the fact that a serious lesion is present is the first important step necessary to successful treatment and cure. The three most common and malignant conditions causing persistent hoarseness are syphilis, tuberculosis and carcinoma of the larynx. A very safe attitude would be to consider every case of persistent hoarseness one of these three conditions until proven otherwise. Lesions due to tuberculosis and syphilis are local manifestations of a generalized infection. Careful chest examination may reveal a concomitant lung infection. The wassermann test, past history and other generalized signs of syphilis will aid in identifying a luetic lesion. An early carcinoma of the larynx may be accompanied by no subjective symptoms except slight hoarseness; and on objective examination may show only a slight infiltration of the affected part,

which may easily go unrecognized by one not thoroughly familiar with laryngoscopic examination. The laryngoscopic picture presented by these three lesions varies so widely, and depends to such a large extent on the stage, location and malignancy of the process, that the most expert laryngologist must often depend on the history, general physical examination, tissue section, and other laboratory aids for a diagnosis. With these facts in mind I think a detailed discussion of the laryngoscopic examination at this time is superfluous. The important thing for the physician to bear in mind is that a case of persistent hoarseness may be the first warning of a serious and fatal involvement. Careful physical examination should be done, particular attention being paid to the chest; a wassermann should be taken; an examination made of the larynx, and if anything abnormal is found, the patient should be referred to a competent laryngologist for further diagnosis and treatment.

---

## DIAGNOSIS OF INCIPIENT CHRONIC GLAUCOMA\*

ROBLEY R. GOAD, M.D., Statesville  
Davis Hospital, Department of Ophthalmology

Chronic glaucoma is a disease about which a vast amount is known, but in the control of which very little has been accomplished. The magnitude of the problem is only partially reflected in statistics of causes of blindness, because so many cases of glaucoma are never recognized as such. Magnus, for all blindness occurring during the following age groups, attributes to glaucoma 11 per cent from the 30th to the 45th year, 27 per cent from the 45th to 60th year, and 58 per cent from the 60th to the 75th year.

The immense amount of effort given to the problems of glaucoma has been devoted to the advanced stages; in the future, the incipient stages will receive more attention. The result will be earlier recognition of the disease, earlier treatment and less blindness from it.

The family physician has the opportunity

to recognize glaucoma in its earlier and remediable stages. The specialist depends on the family doctor to refer his work to him. Often it is the family doctor's knowledge of the course and prognosis of ocular affections which measures the hope of recovery. Errors in diagnosis of this condition are much more common than they should be; therefore, the importance of recognizing this insidious disease at a very early date is to be emphasized, in the hope that disastrous consequences can be prevented. It is not my purpose to indulge in criticism of the general practitioner, but to urge an extension of his field of labor. Many of the general profession do not undertake to manage any kind of eye work; I am appealing to the general profession to share with us more of this work, and more of its responsibility.

Simple glaucoma is so insidious in its onset, and so free of prominent symptoms that it often exists for some time without attract-

---

\*Presented to Ninth (N. C.) District Medical Society meeting at Statesville, September 27th.



ing attention. I recall a case coming into our clinic one day with total blindness in one eye, and only 50 per cent vision in the other. This patient gave only the history of slowly failing vision. The medical department had sent him to us because he had inactive pupils.

Elliot states that mists and halos are often the earliest evidences of the disease which attract the patient's attention. These visual sensations are produced by a certain cloudiness of the cornea leading to the breaking up of white light into primary colors, or in producing distortions of the images formed by the entrance of light through the cloudy media. The frequency of the rainbow zones, or halo, as noticed by the patient, gives valuable evidence as to the recurrence of increased tension. These are very delicate symptoms of a rise in intraocular pressure. In describing them some patients speak of a cloudiness of sight, some see through a smoke, while others state that there is a fog. Some state that the mist is very bad in the morning, but passes away during the day; others have it late in the day in connection with worry and fatigue, but food, rest, or diversion relieves them. It is important to distinguish between true and false halos. The true glaucoma halo is much brighter than a false one, for there are three or more colors; namely, a central blue, a middle yellow and an outer red. When using a candle for a source of light at a distance of ten feet in a dark room, the halos should measure about 24 inches in diameter, but they vary in size.

Anesthesia of the cornea is one of the striking symptoms. It is attributed to compression of the nerve fibres, from the epithelium, by the fluid in the lymph spaces, or to compression of the long ciliary nerves.

A shallow anterior chamber occurs as a result of a swelling of the vitreous or congestion of the ciliary body, or it may be due to the closing of the angle of the anterior chamber by adhesions between the cornea and the periphery of the iris. In early stages the anterior chamber is shallow only during the periods of increased tension; in later stages it becomes permanently shallow.

In the earliest stages there is little change in the size of the pupil, while dilatation—usually oval vertically—is almost constant later on. This dilatation is associated with a sluggish and incomplete response of the

pupil to light and convergence or accommodation. There are no iris changes in this stage; the pupil will usually respond to miotic drugs even though the light reflex is feeble or absent.

The earliest sign of glaucoma associated with the ciliary body is a weakness of accommodation. Patients complain of having to continually change their reading glasses for stronger ones. They may have good central visual acuity, but have no desire to read. This results from the patient's presbyopia increasing out of proportion to his age, and too rapidly. The forward displacement of the lens and iris leads to an increase in the refractive error of the eye and the patient becomes myopic. These changes do not compensate for the marked increase in the presbyopia. By a more thorough examination a cataractous lens, secondary to glaucoma, may be found. A cataract of this kind is more bluish than the ordinary senile form. In many cases cataract and glaucoma co-exist without bearing any relation to each other.

The perimetric examination constitutes one of the most delicate and reliable indications of the presence of glaucoma. The studies show a marked contraction of the visual field, the nasal portion of which is affected first, and it becomes more affected as time goes on. There is diminished vision for the point of fixation, but even before this there is usually a marked contraction of the visual fields; that is, the patient may preserve central vision for an indefinite time, while his show a marked contraction of the visual field, peripheral fields are steadily contracting down to the point of practical annihilation of sight without his being aware of his impending blindness. *Such patients will go frequently for changes in glasses and they generally secure improvement in visual acuity. In this way they fail to be apprized of their error in thinking that nothing of a serious nature is wrong, although the eye is undergoing progressively destructive changes that cannot be remedied.* Central defects in the fields consist of an enlargement of the blind spot of Mariotte, which is a very early defect, and Seidel's sickle-shaped scotoma, which is an extension of the blind spot and may radiate either above or below it or in both directions. This scotoma is supposed to represent the fibres which surround the fibers from the macular region. Other signs are the Bjerrum

arcuate scotoma and Ronne's step. It only remains to devise some way to determine the presence of these changes without the inordinate time required by present methods.

It is probable that in a majority of cases the diagnosis of glaucoma is first made by the observation of changes in the optic disc. When the characteristic marginal cupping is present there is no doubt of the diagnosis, and usually the other symptoms will be present. But in this stage the disease has existed a long time and permanent damage has been done. Little has been done to establish what are the earliest appearances of the disc which may be depended on to indicate incipient glaucoma. If the *margin* of the cup is depressed so that the disc surface shows a decided slope from the cup margin to the disc margin, hypertension is probably present. Still more likely is hypertension present if there is also sharp depression or excavation at the disc margin; a sharply defined cup, an abrupt margin and a plainly marked cribriform fascia suggest glaucoma. When a depression of the disc, however shallow, slopes abruptly at the disc margin, with sharp bend-

ing of the vessels as they cross the margin, and there is some gray discoloration of the disc surface, it is probable that glaucoma exists and that careful search will elicit other symptoms.

The routine use of a tonometer on the older patients could soon bring before the public a knowledge of ocular hypertension, similar to the present knowledge of vascular hypertension which is recognized by the patient as a condition requiring continuous attention. The intraocular tension is determined by palpation, or by a tonometer; in some cases there is slight elevation in the tension only at periods, between which there are times when the intraocular tension is normal. Hypertension can exist a long time without other symptoms, and can be absent when the other symptoms are well advanced. Cases have been reported with cupped discs, contracted fields and arcuate scotomata, but with normal tension. It is the slow and gradual increase in the intraocular tension, continuing for a protracted period, that explains the absence of pain and the diminished vision in glaucoma simplex.

---

## CAESAREAN SECTION\*

L. A. CROWELL, M.D., Lincolnton  
Lincoln Hospital

Caesarean section was used in primitive times to save a living child from the dead or dying mother. The welfare or life of the mother was not taken into consideration as she was already dead or dying. The operation was known and practiced by the Romans.

The derivation of the term seems to be somewhat obscure. The general impression has been that Julius Caesar came into the world by this method, his mother offering to sacrifice her life that there might be an heir to the throne; but there is little evidence to support this impression. Caesar was born 102 B. C. and records, the accuracy of which is generally recognized, indicate that the first

child that lived after birth by Caesarean section was born in 1500. This operation was performed by one Jacob Nufer, a Swiss swine-gelder, upon his own wife after she had been given up by a number of midwives and eleven barber surgeons. Mistress Nufer lived after the operation and apparently fully recovered since it is reported that she subsequently gave birth to four children. Incidentally this last raises the question whether or not this was a full term abdominal ectopic pregnancy. So the evidence seems to be against the idea that Caesar was personally connected with the derivation of the term. There is a theory that Caesarean as applied to this operation was derived from the Latin word "to cut." Some authorities think the term came from the fact that there was a law during the time of the early Caesars providing that

---

\*Presented by invitation to the Ninth (N. C.) District Medical Society, meeting at Statesville, September 27th.

no woman who had died in labor should be buried until the child had been extracted. .

In reviewing the literature of Caesarean section it is interesting to read of the many cases reported in ancient times which were performed by ordinary laymen, and of many cases where women were ripped open by bulls and buffaloes, both the child and mother surviving. The results of this kind of surgery were better than those obtained by the surgeons of that day and even of later times. Dr. Harris of Philadelphia gathered statistics of 14 cases of gore ripping by bulls and buffaloes in which ten mothers and seven children survived and contrasted it with an 84 per cent death rate of mothers at the hands of the surgeons of the day. Dr. George Clarke Mosher, of Kansas City, cites a case reported by Dr. Rankel, a medical missionary in Africa, of a Caesarean section he saw done by a native in 1897. According to the missionary "the patient was made drunk on banana wine. The operator washed his hands in the same fluid. After the fetus and placenta were delivered the uterine cavity was washed out with the wine. The abdominal wound was closed by means of grass sutures. The temperature did not run over 100 degrees and the wound was healed in 11 days." Many other cases of this type are found in the literature, some of which read more like fiction than fact. It is hard for us in modern times to believe many of these stories. From the year 1500 to 1876 practically all the women subjected to Caesarean section died. When we consider that this was before the days of aseptic surgery, no attempt being made to close the uterine wound, the lochia and blood being allowed to escape into the peritoneal cavity, and no effort was made to control hemorrhage, we do not wonder at the results.

In 1876 Porro, recognizing the two causes of death following operation, sepsis and hemorrhage, suggested and practiced supravaginal hysterectomy, fixing the stump of the cervix into the abdominal wall. Before this time the mortality was practically 100 per cent. After this method was used the death rate fell to around 48 per cent. During this same year Sanger performed the first classical Caesarean section, suturing the uterine incision and returning the uterus to the peritoneal cavity. He should, therefore, be considered the father of the technic of the classical

Caesarean section which is practiced at the present time. Statistics are worth very little in the consideration of the present day mortality. Results in this operation depend more upon the good judgment of the obstetrician who advises the operation than upon the surgical technic of the operator. Good results are obtained with well selected cases, but the mortality rate is very high in late and infected cases. Hence, different writers have variously placed the mortality rate at from 2 to 26 per cent, depending upon the type of case. E. Holland, writing in *Lancet*, 1920, reports 3,314 Caesarean sections performed throughout Great Britain from 1911 to 1920 with an average mortality of 4 per cent, with a mortality of 1.6 per cent in the early, uncomplicated cases, and a 27 per cent rate in those late cases in which manual delivery had been attempted.

Tabulation on the favorable side of the mortality record in Caesarean section as in all surgery, should not mean simply patients getting off the table safely and out of the hospital, but should mean that the woman is cured and is able to resume her usual household and social duties, including subsequent child-bearing. If the women should die from a ruptured uterus at a later delivery 50 per cent of these deaths should be borne by the primary operation. Morbidity following an operation may be worse for a patient than primary mortality.

The death rate after Caesarean section is influenced more by the care and attention of the obstetrician in the early hours of labor than by any other one factor. Most of the deaths are due to infection and the infectious material enters, in the majority of cases, through the vagina. This infection is in direct proportion to the number of vaginal examinations and attempts at manual delivery. Patients in labor should be examined as few times as possible, with every examination made under the most rigid aseptic conditions. Gloves should always be used and the same aseptic precautions should be taken as would be in preparation for a laparotomy. If these rules were strictly observed, the mortality rate in those cases which subsequently come to operation would be markedly reduced.

I am afraid many physicians look upon Caesarean section as being so simple and free



of danger that it should be done on the slightest indication. Hence, many cases come to operation that should have been left to Nature. I agree with Dr. B. C. Hirst that "its facility, dramatic character, and successful results invite an abuse of the operation." I also heartily endorse Dr. George Clarke Mosher's statement that "it is the easiest obstetrical operation unless one admits the application of low forceps at the outlet."

My own limited observation has proved that too many Caesarean sections are being done. Many factors explain its widespread and indiscriminate use. The tendency of the times is to do things in a rush, and doctors, like other people, have allowed themselves to be caught up in the whirlwind of speed. Automobiles, airplanes and other creations of the twentieth century are built for speed and are expected to make record time. Likewise, the baby is expected to make haste in passing through the birth canal, and if there is what seems to be undue delay, our thoughts turn too quickly to a more rapid method of delivery. Patience should be the watchword of the conscientious obstetrician. He should not forget the power of labor and give Nature a fair chance. Midwives should teach us a lesson in patience, for it has been claimed that the death-rate is lower when they supervise the process of parturition than when the obstetrician is in attendance. If this be a fact, it could be due to only one thing; their blind trust in Nature. In other words, the maintaining of an attitude of "masterly inactivity."

Please do not misunderstand me. I am not attempting to decry this operation, for I believe that in properly selected cases, where the indications are clear, it is one of the most valuable procedures in surgery. It has for its object the saving of two lives instead of one, a condition which does not exist anywhere else in surgical practice. Therefore, if by sound judgment and good surgical technique, we succeed in saving both mother and child, when they could not have been delivered by any other method, we have accomplished something worth while.

What are the indications for Caesarean section? Someone has said that in one of the New York hospitals the only indications necessary are that the patient be pregnant and unable to speak the English language. In

the literature, one may find this operation recommended for almost anything. In fact, there seems to be almost no end to the list of so-called indications. At one extreme we find obstetricians and surgeons advising the operation on the slightest pretext. On the other side we find those who persist in the use of other methods with no results when the indications for Caesarean section are or should be clear. The personal equation plays a big role here, as every surgeon judges each case on its own individual merits.

For practical purposes, all cases could be classified into two groups, those where the indications are absolute and where they are relative. An absolute indication for Caesarean section arises when some condition exists either in the mother or child which would preclude the possibility of delivery by the natural route. Under this class might be mentioned a markedly contracted and deformed pelvis, obstructing tumors in the pelvis, exostoses, fibroids, cystic tumors, etc., puerperal eclampsia in primipara with a long undilated cervix, old primipara, and in cases where there is a marked disproportion between the size of the child's head and the mother's pelvis.

Under the head of relative indications might be mentioned placenta praevia, prolapse of the cord, malpositions of the fetus, scar tissue from a repaired cervix or perineum, relative disproportion or misfits between the fetal head and the pelvis, or soft parts of the mother.

Contracted pelvis is usually classed as the most positive of the absolute indications, and it is claimed by most authorities that in 75 per cent of these cases, the child will be delivered by natural forces.

I feel confident that I express the sentiment of this group when I say that every prospective mother, and particularly primipara, should have pelvic measurements made. But I would like to know how many obstetricians here and in North Carolina make this an absolute rule?

I shall not discuss in detail the various indications and contraindications for Caesarean section, as this would consume too much time and avail little. Since 1919, there have been 4,891 deliveries in my county. During the same period of time I have done 20 Caesarean sections. This makes a proportion of



1 Caesarean to every 244 deliveries. At first this seemed high to me, but perusal of the literature has convinced me that my figures are not far from the general average. Mosher, in *Surgery, Gynecology and Obstetrics*, gives the following data: "In the Jefferson Hospital, Philadelphia, 362 deliveries were done in 1924; 55 Caesarean sections, an incidence of one to six. In the Boston Lying-in, there were 1,123 births, with Caesarean section in 92, an incidence of 1 to 12. At the Bellevue Hospital of New York City there were 44 Caesarean sections in 4,286 births, an incidence of 1 to 97. In the New York Lying-in, 3,511 labors with 5 Caesareans, an incidence of 1 to 585. In the Johns Hopkins Hospital there were 875 births for the year, with Caesarean section incidence 1 to 125; since the opening of the hospital the incidence has been 1 to 103. In the Swedish Hospital, Minneapolis, in 1,667 births there were four Caesarean sections, an incidence of 1 to 201. In the Burnside Hospital, Toronto, within eight years there were 6,982 births, with 8 Caesarean sections, an incidence of 1 to 861.

We see in these figures a very striking exposition of the role of the personal equation in this operation. The difference between a proportion of 1 to 6, as at Jefferson, and 1 to 861, as at Toronto, can be explained in no other way. It is very evident that the pathology would not vary so much in these different localities.

There are two methods of doing a Caesarean section. First, the high, or so-called classical Caesarean section. Second, the low, or extra-peritoneal route. In the latter method there are several subdivisions. In the group of cases forming the basis of this paper the method of delivery was by the classical, or high method. I believe this the safer procedure in the hands of the average surgeon. It is more simple in technic, there is less danger of losing the child, and in all clean cases it is without doubt the method of choice, and in late and infected cases where the indications for a hysterectomy might arise, for the safety of the mother this complication could be more easily met and will undoubtedly offer a more favorable prognosis for both mother and child.

The low, or extra-peritoneal method, as recommended and practiced so extensively by Dr. DeLee, who has done more to popularize

it in this country than any other one person, in his hands is no doubt very successful.

In my series of 20 cases, all the children were born alive, but two of the mothers died. One mother died 10 days after the section was performed, from septicemia. In this case attempts had been made to deliver the child by version and forceps extraction under conditions very unfavorable as to asepsis. The other mother died as a result of a ruptured uterus in a subsequent pregnancy after having been given pituitrin in rather large doses. Calculating 50 per cent of the mortality from ruptured uteri at a later labor with primary mortality, which I think is only fair, this gives a mortality among the mothers of 7.5 per cent.

One of the children was born with a typical "Gump" deformity. The lower jaw was almost entirely absent, and fortunately the child died a few hours after birth.

I had another case of ruptured uterus following a Caesarean section done at another clinic two years previous. During her first pregnancy and labor she had uremia with convulsions 24 hours before the section was done. Her convalescence following this operation was uneventful except for a phlebitis in her left leg which developed three weeks after the section. Her next pregnancy was apparently normal and labor progressed in the natural way until near the end, when she began to complain of acute pain in the region of the old incision with a feeling of something tearing or giving away. The physician attending her recognized that something unusual had happened. The head at this time was low down on the perineum and he completed the delivery by making firm pressure over the uterus, at the same time attempting to hold the torn edges of the uterus in apposition. After the birth of the baby an attempt was made to remove the afterbirth. He was unable to do this by the Crede method so he introduced his hand into the uterus, did not find the placenta but got hold of the cord, on which he made traction, which resulted in separating it from the placenta. This was about 6 a. m. I saw the patient in consultation at about noon of the same day. She was brought into the hospital immediately and opened up. The uterus was found ruptured and the placenta and a large quantity of blood were found in the peritoneal cavity.

This was removed as well as possible, the torn uterus was repaired, and the tubes tied off. The patient had an uneventful convalescence and left the hospital on the twenty-fourth day. This patient had not been given pituitrin.

The complications in this series of cases that have given me the most concern have been acute dilatation of the stomach, and ileus. These have been very distressing in a few of my cases, especially in one. Since adopting the rule of using stomach lavage early, with eserine hypodermically in 1/100 gr. doses every four hours, with pituitrin in fairly large doses three or four times daily according to indications; I have had very little trouble with these complications.

I also think it is a good rule, if the ileus continues beyond the third day, to give two ounces of castor oil with two drops of croton oil. This usually brings about a good free action of the bowels, which as a rule relieves the distention permanently.

In conclusion, I desire to say that I believe Caesarean section to be one of the most valuable contributions to surgery, if used in properly selected cases. It, however, should not be considered lightly, as statistics show that the general mortality ranges around ten per cent. No surgeon, unless he is thoroughly conversant with the mechanism of labor, should undertake this operation without calling into consultation a well qualified obstetrician. In other words, as someone has said, he should not attempt to assume the role of both judge and executioner.

---

## Reports of Disease Conditions of the Brain

A. A. BARRON, M.D., Charlotte

Man, aged 19. The first symptom to attract the patient to his condition occurred March, 1926, while he was working in field. He had what he termed "a catch in the back" after lifting a rock. This symptom was sufficient to stop him from work for a few hours. He returned to his work, but some backache in lumbar and sacral regions persisted. He soon noticed some weakness beginning in lower extremities. He was seen by a surgeon and placed in a cast. His weakness progressed and he became totally paralyzed in his

lower extremities with inability to void or control bowels. When I saw him in February, 1927, he had a bilateral paralysis of lower extremities. He had complete loss of sensation corresponding to the eighth thoracic segment. Showed complete block of spinal fluid. A good-sized tumor at the eighth dorsal was comparatively easily hulled out. Six months later he was able to walk with the aid of crutches and had partially regained control of his bowels and bladder.

Man, aged 49, admitted to hospital September 27, 1927, with complaint of severe ache in back part of head. About two weeks previous, while working on his automobile, he suddenly felt faint, became nauseated and vomited. This was followed by a severe headache in occipital and frontal region, with dizziness and blurred vision. He had improved with the exception that he still suffered with intense occipital headache. On examination he presented symptoms suggestive of meningitis. Neck was somewhat rigid and Kernig's sign was positive. His abdominal and knee reflexes were absent. Spinal fluid was of an orange color, representing a hemorrhage; cell count of 200, under increased pressure. Drainage relieved his headache. Another puncture was done on the third day. On the tenth day he left the hospital feeling well with the exception of some weakness. There was no evidence from the study of his eye-grounds or his peripheral vessels that he had a general arterio-sclerosis. His blood-pressure had never been high and during his stay in the hospital averaged 135/70. His heart was normal. Wassermanns were negative. Normal blood picture.

The above case presents a syndrome that justifies diagnosis of a subarachnoid hemorrhage, involving probably one of the divisions of circle of Willis (from an aneurysm).

It is difficult sometimes clinically to differentiate between a vascular accident or hemorrhage and a brain tumor.

Man, aged 54, was seen November, 1927, in an unconscious condition. His history indicated that he had been a sufferer from migraine-like headaches for years, that he had had high blood pressure for several years, but had continued to work up until about one week ago. Quizzing his son closely, it was learned that for a period of several months he had thought that his father's mind was not

exactly right. His father had charge of a small grocery store. The son noted that the patient would not infrequently go to the wrong counter to get things, that when someone asked for one object he would not infrequently get something else for him. His father told him one day that he could not recognize the difference between a dollar and a quarter in his left hand. He began to suffer with severe headaches and consulted an eye, ear, nose and throat specialist for same. Three days ago he noticed some weakness in his left arm and hand. On the following day this extended until it involved his left lower extremity. On the following day he became unconscious.

His picture was that of a hemiplegia. His left side was flaccid. Breathing was heavy. Blood pressure 150/100. Eye-grounds negative except evidence of arterio-sclerosis. Lungs, chest and abdomen negative. Spinal fluid under increased pressure—globulin increased.

The history of inability to recognize objects in left hand and inability to discriminate objects suggested a lesion in the right parietal region. His condition was not favorable for operation, but it was decided to explore the right side of his brain. Nothing was found. Patient died shortly. Autopsy revealed a large parietal lobe tumor.

Man, aged 34, was seen April 26, 1927, with complaint of severe headache and convulsion. He gave a history that about two weeks ago he had influenza. Felt achy, chilly and suffered with headache. On about the fifth day headache became intense, more severe over left eye. Headache persisted, at times very severe. He had to have several hypodermics for relief. Began having convulsions. Had three convulsive seizures last night and two on the morning he was admitted to hospital.

He was a robust man, stupid, irritable, unreasonable and hard to manage. Heart, lungs, etc., negative. No paralyses or sensory disturbances. Eye movements normal. Pupils normal, eye-grounds negative. None of his sinuses transilluminated. X-ray confirmed pan-sinusitis. Spinal fluid, cell count 36, 86 per cent lymphs, globulin markedly increased, 86 mg. per 100 c.c.

History of infection, severe headaches, irritability and convulsive seizures, increased

cell count and increased globulin (no pus cells in spinal fluid) led to the conclusion that he had a frontal lobe abscess. It was only possible to open frontal sinuses and drain. At autopsy (Barret) right frontal lobe was nothing but a shell filled with pus.

#### COURSE IN COOKING FOR MEDICAL STUDENTS

If doctors had to prepare the dishes which they glibly prescribe, and then had to eat them, they would probably pay more attention to scientific dietetics. The *New York Times* of September 5th discusses this subject editorially as follows:

"Diet is important in the treatment of disease. Johns Hopkins has recognized this fact by making a course in cooking part of the fourth year work of medical students. In the classes at Johns Hopkins the young men will learn not only why hemoglobin regeneration occurs when liver is fed to an anemic patient, but also how to prepare it to get the most value. Why the price has gone up is not required to be taught. The young doctors of next year will be able to give intelligible instructions for cooking the food they prescribe. On one leaf of their pads they will scribble the hieroglyphics which provide the patient with nauseating medicines. On the next they will write the recipe for an appetizing concoction that is just as good for him as if it tasted like poison. It is amusing to think of doctors and nurses in hospitals chatting about something besides anatomy and operations. They will be able to exchange notes like two housewives.

"Women are certain to approve this new project at Johns Hopkins. They will hope that the idea will spread, so that not only medical schools but all colleges will include cooking classes for men. And men, too, will probably like the plan. With so many women devoting themselves to business, it would not be a bad scheme to teach prospective husbands how to fend for themselves in the home."—*New York State Jour. of Med.*

#### CARE OF THE HEART IN PNEUMONIA

We could sum the whole thing up in one sentence—Let the heart alone, if it is doing its work, that is, if there is no edema and no engorgement of the viens.—G. M. Albee, in *New England Jour. of Med.*



## PRESIDENT'S PAGE

*Tri-State Medical Association of the Carolinas and Virginia**Jas. K. Hall*

The rifle-men of the mountainous regions of Virginia, Tennessee, and North Carolina were too deadly in their aim for the comfort of the British Regulars and the Tories. At Kings Mountain—it is little more than a big hill on the line between the two Carolinas—twilight settled down upon the remnant of the slain Ferguson's army. Cornwallis fled northward from Charlotte, and at Guilford Court House, now Greensboro, General Greene gave him the blow which hurled him on to Yorktown. Greensboro is an historic town. It is rich in precious memories. Nearby was born that captivating lady who made herself even more famous as mistress of the White House than her talented husband, James Madison. Although Dolly Madison spent much of her early life in Virginia with her fiery kinsman, Patrick Henry, she was born near Greensboro in the neighborhood of that splendid Quaker school, Guilford College. Not many miles east of Greensboro was fought the Battle of the Regulators—the precursor of the Revolution. And old Joe Cannon, though I think he was Yankee to the bone, was born in that same Dolly Madison Quaker community right near Greensboro. Uncle Joe had the misfortune to leave North Carolina while he was only a crawling infant, otherwise he would have been, to be sure, a dashing Confederate officer. But Greensboro came within an ace of sitting in Mr. Lincoln's Cabinet. In that period between his first election and his inauguration when he was trying to prevent dismemberment by calling a cabinet officer from every section of the country, Mr. Lincoln extended an invitation to Mr. Gilmer, the distinguished lawyer of Greensboro, to visit him in Springfield, but Mr. Gilmer did not reply to the allurements, and North Carolina, and Mr. Gilmer, too, left the Union—for a while. Over in Orange County, not far from Hillsboro, once the capital of the colony of North Carolina, was born United States Senator Thomas H. Benton, the stout defender of Andrew Jackson, who was much of a man on his own account, and near him was born, also, the father of General Forrest, the great Confederate cavalryman, who pestered General Sherman so terribly. Near Hillsboro the University of North Carolina, our first state university, has its seat, and it is well worth a visit.

Edgar Allan Poe is looked upon as our first short story writer; but O. Henry popularized the short story. If you would know the misery and the wretchedness of the neurasthenic, read his "Let Me Feel Your Pulse." Has any psychiatrist of today, with all his polysyllabic words and ponderous phrases, so keen an understanding of the distraught mind as the canny old country doctor portrayed so cleverly by O. Henry in that story? If you would know about the operations of the mind of the typical rich man's bad only son read O. Henry's "The Ransom of Red Chief." And in "Hygeia at the Solito" you can find out how sunshine and fresh air and rough stuff made a prize fighter out of the poor tuberculous rack of wretchedness, McGuire. At Christmas time, simply because I cannot make up my mind which is the best Christmas story in the world, I read all three of them—Dickens' "Christmas Carol"; Thomas Nelson Page's "Polly" and O. Henry's "Whistling Dick's Christmas Stocking." The last story I sometimes read twice. In a drug store in the village of Greensboro, while he was only a youngster in his teens, O. Henry was learning about opodeldoc and rheumatism and neurasthenia and everything else, and from that village he went as a young man to Texas—and into immortality.



Scarcely a generation ago I passed to and fro through the village as I journeyed to and away from the University of North Carolina. Now fifty-odd thousand people—good people—have pushed its borders far out into the surrounding country, and the little village has become no mean city. In it are happily blended industry and culture. What was once, and not along ago, a broom-sedge field has become the habitation of the North Carolina College for Women—a great state-supported school in which more than two thousand young women matriculate each year. And in the Greensboro College for Women the Methodist Church has long been emphasizing the expression of its belief in the importance of the education of the future mothers of the state. Young negroes are given in the Agricultural and Technical College—another state school—such training as will fit them for life work and good citizenship.

Round about Greensboro are groups of cotton mills which fabricate a local product into finished form. Here is the largest denim mill in the world.

Suggestion is a powerful influence. Around the oldest insurance company has grown up other companies, and within recent years Greensboro has become a great insurance center. One of the landmarks of the city is a great upward-reaching, many-storied, life insurance building. And another company has quartered itself in a group of buildings well beyond the city's farthest suburb—in illustration of its belief in Emerson's rat-trap theory.

In an edge of the city is a great terra cotta manufactory from which its products are sent daily to the far reaches of the country.

The nurseries of the city make their appeal to the palate and the eyes in every orchard and on every lawn in the neighboring states.

The suburban developments are so alluring that every visitor to the city has difficulty in turning away from them and in going back to his own home.

I know of no other aggregation of people more efficiently ministered to by our own profession. There the doctors—young and old—keep step with medical progress. There the well are kept well and the sick are skillfully cared for.

Even here in Richmond I can not fall upon sleep at night until I have nourished my mind and my spirit by the bright pages of Greensboro's great morning daily.

If any single agency of North Carolina's state government functions more perfectly and more helpfully to the people than another it is the Highway Commission. Frank Page and his co-commissioners have stretched endless bands of concrete and asphalt all over the state. The traveler can not reach Greensboro over a bad road—either rail or automobile.

On Tuesday and Wednesday—and perhaps on Thursday, too—February 19th, 20th, and 21st, 1929, I shall expect to see at the O. Henry Hotel in Greensboro all the keen-minded doctors in the Carolinas and Virginia—from the Savannah River to the Potomac—from the Atlantic to the French Broad—all of them. The program for the thirty-first annual meeting of the Tri-State Medical Association is being formulated.



# Southern Medicine and Surgery

Official Organ of

{ Tri-State Medical Association of the Carolinas and Virginia  
{ Medical Society of the State of North Carolina

JAMES M. NORTINGTON, M.D., *Editor*

## Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	Human Behavior
FRANK HOWARD RICHARDSON, M.D.	Black Mountain, N. C.	Pediatrics
W. M. ROBEY, D.D.S.	Charlotte, N. C.	Dentistry
J. P. MATHESON, M.D.	Charlotte, N. C.	Diseases of the Eye, Ear, Nose and Throat
H. L. SLOAN, M.D.		
C. N. PEELER, M.D.		
F. E. MOTLEY, M.D.		
THE BARRET LABORATORIES		
O. L. MILLER, M.D.	Gastonia, N. C.	Laboratories
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	Orthopedic Surgery
JOHN D. MACRAE, M.D.	Asheville, N. C.	Urology
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	Radiology
PAUL H. RINGER, M.D.	Asheville, N. C.	Dermatology
GEO. H. BUNCH, M.D.	Columbia, S. C.	Internal Medicine
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	Surgery
HENRY J. LANGSTON, M.D.	Danville, Va.	Periodic Examinations
CHAS. R. ROBINS, M.D.	Richmond, Va.	Obstetrics
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	Gynecology
LOUIS L. WILLIAMS, M.D.	Richmond, Va.	Neurology
		Public Health

## A CORRECTION

*At the beginning of the second paragraph under the caption, "Shorter School Hours for the Smaller Children," on page 624 of the issue for September, the figures 1916 to 1918 are given... They should be 1926 to 1928.*

## AN INQUIRY INTO THE ATTITUDE OF THE CANDIDATES FOR THE PRESIDENCY TOWARD DOCTORS AND MATTERS OF ESPECIAL CONCERN TO DOCTORS

This is not a party organ. It would not be seemly for a medical journal to attach itself to the cause, or to become a mouthpiece, of any political party. It is, however, one of the privileges and duties of a journalist in any special field to inform his readers on the attitudes of aspirants to political office toward the men in that special field, so far as such attitudes are revealed by reliable records.

On August 21st we wrote:

Dr. Hubert Work, Chrm.,  
Republican National Committee,  
Washington, D. C.

Dear Sir:

This Journal believes that doctors should take an

active interest in promoting the causes of those men in politics who show intelligence enough to support the regular medical procession. I am writing to ask for information as to the attitude of the Republican candidate for the Presidency and (or) the Republican party in any of its representative bodies, as to the legislation affecting the interests of the only group of men calling themselves doctors who are promoting the health of the people.

At the suggestion of the gentleman in charge of the local headquarters of your party, I am sending this "personal and confidential."

Very truly yours,

SOUTHERN MEDICINE AND SURGERY.  
Jas. M. Northington, M.D., Editor.

A similar letter was sent to the Democratic Chairman.

Although, as it will be noted from the letter, we went to special pains to obtain responses, and although it might have been supposed that the Republican Chairman's being a doctor himself would add to the likelihood of a response being made, no word has come from his headquarters.

Democratic headquarters has supplied evidence in the form of Legislative Documents of the State of New York. Fairness to candidates and readers requires that the information be given out. Failure, for whatever reason, on the part of the Chairman of one

party, to supply information, constitutes no sound reason in logic or ethics for suppressing that courteously supplied by the other. Now to our muttons:

Governor Smith's Messages to the Legislature of the State of New York will be indicated by their respective years only. All extracts used are fully borne out by a reading of the full text of the messages. Wherever italics appear, they are ours.

From Message of 1923:

Activity by the state for the preservation of public health can never be too broad. While we may congratulate ourselves upon the steadily diminishing death rate, we must not permit ourselves to slow down for a single moment any effort that the state should put forth for the protection of the public health and the prevention of disease.

I venture the suggestion now that the state, as a matter of sound policy, should take advantage of the federal appropriations made by the Congress of the United States under what is known as "The Sheppard-Towner Act to promote the welfare and hygiene of maternity and infancy." New York State pays a large portion of the federal taxes and should take full advantage of appropriations thus made. *Whether one quarrels with the principle or not makes little difference. The place to voice an objection to the principle is in the Halls of Congress.* The policy having been once adopted, the State of New York should avail itself of the offer of the government. Certainly nobody can complain about the purpose for which the appropriation was made.

There are approximately forty thousand people today in the state hospitals for the insane. The treatment that they are to receive from the state depends entirely upon the interpretation that you put on the word "care." If we are simply to lock them in and herd them together until their distress of mind is relieved by death, that is one method. If, on the other hand, we are to care for them properly, put forth our best efforts to provide for their needs medically and otherwise, make the very best effort that we can to effect a cure, provide for their physical comfort, we must make such an appropriation for maintenance as will secure the best kind of help

in adequate numbers.

I believe that the people want to do everything they can for these unfortunate wards; that the great majority of the people feel that this is an obligation that they should discharge to the very limit of their ability. I, therefore, bespeak your careful attention to proper appropriations for maintenance and a careful study of proposals to add to the existing structures as well as to build new ones of proven necessity in order that we may cure the evil of overcrowding and not overlook the necessity for attendants in adequate number.

Related to this in a way is the problem of the mentally deficient. With proper housing under proper environment and with proper teaching, the mentally deficient may be made useful members of society to the extent that their condition will permit. Work might well be begun in the schools in extending the system of special classes successfully started, where it is possible at first hand to detect any defective mentality and where in the primary stages some form of training might be useful.

It would be idle for me to waste time emphasizing the necessity for maintaining our educational institutions at the very highest possible standard. Education is the one thing in the government that must always be one hundred per cent. We may fall down in our programs for public betterment or public improvements, but time lost in the development of education can never be made up. We must zealously labor that the state may give to her children the best possible education known.

Every proposal that strengthens this activity of the government should have your most careful consideration. The state should continue its policy of liberal appropriations to localities so that the salaries of the school teachers may be maintained at a figure commensurate with the great work that they are doing for the state.

The fundamental laws of the state places upon the Legislature the duty of providing a system of free common schools for all the children of the state, but we must go further and make provision for adequate night schools and for vocational training.

I would suggest that the Committee on

Education of both the Senate and the Assembly have an immediate conference with the Superintendent of Education and the Regents of the University looking toward more adequate school facilities in our rural communities. I am satisfied that the children in these sections of the state are not getting from the state the same opportunities for education that are accorded to the children in the cities. We owe it to all children alike and we should try to give it.

It might well be said that the inadequate school facilities now in farming communities present an additional reason why people leave the farm and move to the cities. Every father and mother instinctively do their best to give their children all that the state affords in education. It is the safeguard of the state and of the nation. Anybody desiring to have a proper understanding of the necessity for an education need only talk to the man who was denied it.

I will be pleased to be called in by your committees at any time that you desire to take up these matters with the regents of the university.

#### Message of 1924:

Within the last month, I called a conference in the Executive Chamber between the representatives of medical societies, the State Commissioner of Health and the State Commissioner of Education. Certain facts were laid before the conference by the Commissioners of Education and Health showing the necessity for strengthening the provisions of our statutes relating to the practice of medicine. In order that individuals may not be able to represent themselves as capable of diagnosing and treating disease who have not met the standards set by the state, I would suggest that the appropriate committees of both Houses of the Legislature confer with these commissioners to the end that the necessary amendments to the law to strengthen these provisions be introduced, in order to insure as far as we can do it, the public health of our citizens.

The state should be more vigorous in the prosecution for violations of the Medical Practice Act and I cannot help thinking that violators should be prosecuted by the Attorney-General, because I am satisfied that a

violation of that law is a crime not alone against the people of any locality but against the people of the whole state.

The stability of the state and its institutions depends upon the enlightenment of its people, and this can only be attained by the effective maintenance of a system of public schools in which all the children of the state may receive educational opportunity.

#### Message of 1925:

The former Commissioner of Health, the late Doctor Biggs, was noted for his statement that public health is purchasable and I believe we have demonstrated it.

If we compare it with the average annual death rate of infants for the five-year period of 1917 to 1921, it would mean that three thousand four hundred and fifty-five infants now living would have died. There also has been a most gratifying decrease of deaths among women from causes directly connected with child birth. The average annual number of deaths from 1910 to 1920, inclusive, was one thousand three hundred and fifty-nine, while the average from 1921 to 1924, inclusive, is one thousand three hundred and fourteen, which represents a yearly saving of forty-five lives since the organization of the Division of Maternity, Infancy and Child Hygiene.

Over two thousand crippled children are being supervised by the State Orthopedic Surgeon and a corps of eight specially trained nurses, with the result that many hundred of these children, who, if neglected would become burdens to themselves and others, are being restored to a physical condition which will permit them to become useful citizens. It is to be hoped that the facilities for the care of crippled children, by no means at present adequate, will be made more so as the result of the report of the commission. I commend to your careful consideration their recommendations when submitted.

As a result of numerous conferences with representatives of the medical profession and heads of the State Education and Health Departments, I am convinced that there is a grave menace to the public health of the people of this state in the very large and ever-growing number of persons who are practicing medicine within the meaning of the



law without being licensed or qualified to do so.

This state is much more fortunate in this respect than many others, but the situation here imperatively demands remedial legislation. Attempts have been made during the past several years which for one reason or another have failed of passage by the Legislature or have not received executive approval. *This is not a political or partisan matter. It concerns the health and lives of the people of this state.* I earnestly hope that the present Legislature will give this matter careful consideration and enact legislation which will justly and effectively safeguard the public health and strengthen and enforce the Medical Practice Act.

Recommendations I have made to the Legislature in previous years for adequate provision for state hospitals have proved their worth. The new wage schedule for employees established in 1923 and the higher ratio of physicians and employees to resident patients have enabled the hospitals to provide better care for patients than had been possible in any previous year since the beginning of the war. The improvement in care is reflected in a low death rate and a high recovery rate. Further gains may be expected when the present serious overcrowding is remedied.

#### Message of 1926:

I feel compelled to call your attention to a weakness in our present health administration, under the law which has been in existence since the reorganization of the State Health Department in 1914. The present unit of local health administration is entirely too small for efficient work. It is carried on by general practitioners of medicine in small localities, who, with totally inadequate compensation, are endeavoring to the best of their ability and with the comparatively short time which they can devote to public health work, to discharge the duties required of them by the Public Health Law and it is due to the unselfish devotion of the great majority of local health officers and their co-operation with the state health authorities that so much has been accomplished.

The unit for local public health work should be the county, with a full-time qualified county health officer who should be made responsible for the conduct of local health matters

within his jurisdiction with only such supervision as the state may be required to give in an advisory capacity.

I renew the recommendations of a year ago that careful consideration be given to the protection of the people of the state from unlicensed and unqualified persons practicing medicine. The co-operation of the medical profession is an essential factor in the protection of the public health, as well as in the care of the sick. *A very large part of modern public health is urging people to get the advice of their physicians before serious and perhaps incurable conditions have developed. Such effort comes to naught if unqualified persons are allowed to hold themselves out as physicians.* The subject is a difficult one, but the State of New York should take the lead in establishing high standards of medical practice, and providing a practicable plan for their enforcement. *It is a matter of justice to qualified physicians and of protection to the public.*

Last year I gave my strong approval to a considerable increase in the number of physicians in the state hospital service, which made possible both increased medical service for the patients in the hospitals and increased clinic service for those outside.

#### Message of 1927:

I urge upon you that there be no curtailment of this work [eradication of bovine tuberculosis] but that its encouraging results be carried through to a one hundred per cent eradication of this menace to the public health.

A most important step in the promotion of health was taken last winter in the revision of the Medical Practice Act. *The annual re-registration of licensed physicians will facilitate the discovery of those who are practicing medicine, though not licensed so to do. The prosecution of such persons is made easier. It also establishes a grievance committee of physicians, which will examine into complaints against licensed physicians, and report to the Board of Regents what action should, in its judgment, be taken.* Some time must necessarily elapse before these new and important provisions can be fully carried into effect, and the public benefits therefrom be fully realized. *They should go very far toward bringing about a conditions of affairs*

*in which any person suffering from accident or sudden illness, in any part of the State of New York, and seeking the services of a physician, can be assured that he is not falling into the hands of a person lacking the essential requirements of medical education.*

Scarlet fever has almost ceased to be a factor in childhood mortality. The tuberculosis death rate during the past year reached a new low mark, being less than half the rate of twenty years ago.

It is most gratifying to note that the increased funds afforded to the work of prevention of maternal and infant mortality are producing favorable results. The mortality among women from septic poisoning in childbirth was lower in 1926 than ever before; and there is every hope that we are approaching a time when childbirth will no longer hold any risk of avoidable infection.

Strange to say that while the death rate from preventable diseases here mentioned is constantly on the decrease, deaths from alcoholism have increased five fold between 1920 and 1926, a condition, I am informed by our Department of Health, which is prevalent in all parts of the country. Surely, this is a preventable disease and one most difficult for a Department of Health to deal with.

#### Message of 1928:

Proper attention to the preservation of the public health will produce a strong, healthy, vigorous people.

Today the range of public health activity has broadened until it embraces the preparation of anti-toxins at the State Laboratory in Albany, rehabilitation of cripples, maternity and infancy care, state aid to rural counties, public health education, and even the supervision of the oyster beds on Long Island. No small part of its work is devoted to a ceaseless and constant supervision of the water supply for the various municipalities of the state.

A part of the duty of the state in the preservation of public health is the suppression of unauthorized practitioners. After a long struggle amendments to the Medical Practice Act were written into our statute books in 1926. They received nation-wide attention and were favorably spoken of at national conventions of medical authorities. *They are proving effective measures of control.*

Marked progress in the care and treatment

of the insane has been made in this state during the past decade.

The aim in planning improvements at the several hospitals has been to provide safe, suitable and adequate accommodations for patients, officers and employees and ample facilities for treatment, thus making each hospital a complete functioning unit.

In planning improvements to its hospital system employees as well as patients have been taken into consideration. During the past ten years general standards of living have risen and salaries and wages have notably advanced to meet these conditions. The department has been building new homes for nurses and other employees and staff houses and cottages for physicians.

In approving "An Act to amend the public health law, in relation to the practice of medicine." (Webb-Loomis Bill, 1926):

In the fall of 1924, I called a conference of representatives of the State Department of Health, the State Medical Society and the State Department of Education, for the purpose of considering amendments to the Medical Practice Act.

In my Annual Message to the Legislature in 1925, I called special attention to the necessity of enacting legislation which would rid this state of illegal practitioners of medicine in the interest of the public health. Thereafter a bill was prepared by the Department of Education and introduced in the Legislature, embodying the fundamental principles agreed upon at the conference. The bill was supported by the State Department of Health, the State Department of Education and the State Medical Society. It passed the Assembly by an overwhelming vote but failed in the Senate, in spite of the fact that on the very last day of the session I sent a strong special message urging its enactment. The situation now as at that time demands remedial legislation. Attempts made in the past have failed for one reason or another, notwithstanding the fact that it could not by any stretch of the imagination be made either a political or a partisan matter, as it concerns only the health and lives of the people of the state.

In 1926, I renewed the recommendation of a year ago and recommended that legislation be enacted in order to protect the people of the State from unlicensed and unqualified

persons practicing medicine. As a result of such recommendation, I have before me what has come to be known as the Webb-Loomis Bill. *Since its passage in the Legislature, thousands of letters have been received at the Executive Chamber, urging me to veto the bill.*

The following is what the bill will do:

1. It will require every practitioner to register annually with the Secretary of the Board of Medical Examiners, thereby furnishing an official list or roster once a year of all duly licensed practitioners in the state. This list is to be used by all authorities as well as the public at large.

2. It will afford opportunity through a grievance committee for the profession to clean its own house.

This needs no explanation because there are unethical practices in the medical profession as well as in all other professions, and sometimes greed for money overshadows the desire for intelligent and faithful service.

3. It will provide for prosecutions of all violations of the law by the Attorney-General.

The reason for this is obvious. A violation of the Public Health Law is not a violation against a county or any other subdivision of the state. It is against all of the people of the state. A careless administration of the Public Health Law in a given locality not only endangers the lives of the people of that locality but of all the people who come in contact with them. Public health work by its very nature must be state-wide to be effective.

4. It will afford treatment of the sick and ailing by properly trained physiotherapists working under the direction of duly qualified physicians.

This provision enlarges the field of treatment without the dangers incident to treatment by untrained and unqualified practitioners.

5. It will protect the public from the exploitations of quacks and charlatans by regulating the use of the title "doctor" and by the prevention of fraudulent and deceptive advertising.

I regard it as highly important that the ignorant and the unthinking be not misguided by the use of the title "Doctor" because it presupposes in the minds of a great many

people a knowledge of the human anatomy sufficient to enable the holder of such title to diagnose and prescribe for all the ills the human body is heir to. The title "Doctor" should be made by law to mean what the great majority of people believe it means, and it should not be promiscuously bestowed upon individuals so lacking in proper qualification as to be unable to tell the difference between indigestion and hydrophobia. There is no function of government to my mind more important than the preservation of the public health.

The proposed amendments to the Medical Practice Act contained in this bill, do not take away from any individual or group of individuals, any of the rights now possessed by them under the provision of the law as it now stands, and which have existed in their present form for more than twenty years, but it does provide for a better administration of the Medical Practice Act, and is solely in the interest of the preservation of the health and lives of the people of our commonwealth.

For all of the above reasons the bill is approved.

(Signed) ALFRED E. SMITH.

There you have fair samples of the words and acts of one candidate for the Presidency, on matters of special concern to every doctor.

The evidence will not be argued. Take the case.

#### SOME IMPRESSIONS FROM A DISTRICT MEDICAL MEETING

The impression is very deep that only the impelling urge of the high ideal of aspiration to continual increase in usefulness to our patients brought three hundred doctors to the annual meeting of the Ninth District Medical Society at Statesville on a recent Thursday. Frequently the thought comes up—and we love to linger on it—that no other body of men devotes a tenth as much time to getting together for mutual enlargement in professional stature. Our county, district, state, sectional, national, international and special societies are supported and attended from the same motive—and absence from our homes entails more sacrifice on us than such absence would on any other group. It was a fine sight, and the thoughts it brought uppermost are comforting and inspiring.



For several years this society has chosen to dispense with the discussion of papers, in order that more essayists could be heard. The excellent program was carried out after this manner. As will be seen in another section of this issue, it was decided to go back to the more usual plan of providing for discussions. Each plan has advantages and each disadvantages.

We incline to the belief that it will be best to have the papers discussed, for we believe the ninth district doctors and their guests will make their discussions short and to the point. Getting up and saying something just to be seen or to "compliment the essayist on his very interesting paper, although I can add nothing to it" has about gone out—for which we can give thanks.

Meetings, such as the Ninth District Society's always are, do not just grow so. They have to be thought out and worked out by the patient concerted endeavor of its able and energetic officers. In no other way could the meetings of this society come to be second only to those of the Medical Society of the State of North Carolina in points of program and attendance, and second to none in *elan*.

We appreciate and applaud!

#### INDIVIDUALIZATION IN INTERNAL MEDICINE

Herr Professor Julius Bauer, professor of Internal Medicine at the University of Vienna, delivered the Convocation Address at the meeting of the American College of Physicians at New Orleans last March. Published under the title given above in the August number of *Annals of Internal Medicine*, it should give every thoughtful physician the impulse to stop and take stock of his attitude towards his practice.

In the first place, it brings up, by implication, a question that we have often pondered on; namely, just what is the function of the personal physician? Is the physician's duty performed when he makes an examination and tells his patient that his examination shows nothing organically wrong?, or is it his function to take the responsibility for relieving this patient of his suffering? It seems to us that it is the function of the physician to relieve suffering.

There are two entirely different conceptions among physicians as to how suffering can be

relieved. One is that all people are normal to start with, that any complaint is the result of disease, that the existing suffering can be removed by finding and eliminating by methods of precision the disease causing the complaint, thus producing a return to normal.

The conception of Dr. Bauer, is, on the other hand, that no person is born normal but that each one is born with a different amount of reserve or a difference in stability of the various body structures. These differences he calls constitutional differences. The theme of his paper is that these constitutional differences must be discovered in each patient before that patient can be relieved of his suffering. He then proceeds to take up the various regions of the body and elaborate on the suffering that may be caused through failure to recognize a weakness in this particular region.

In our opinion a great many complaints can not possibly be explained by acquired pathology. There may be acquired pathology present which is discovered by the physician in the course of examination and which is used to explain the complaint. After the pathology is corrected the complaint, if it subsides at all, is more than likely to return. Thus arises that large class of patients who have had teeth, tonsils, adenoids, appendix, gall-bladder and ovaries removed and who continue to have the same complaints, or complaints similar to the ones that they originally sought relief from.

In determining constitutional weakness Dr. Bauer lays emphasis on taking carefully into consideration the family history and the past history. If the examining physician will ask the question, how long has it been since you were real well?, he will often get an answer that will put him on his guard. Then, inquiring into the family history, he will find that one or both parents had ailments of the same nature as that from which the patient suffers. If then he will note the behavior, the build and mental attitude of the patients, a great deal of suffering will be saved the patient and a great deal of criticism saved the doctor.

Dr. Bauer also points out that the way to relieve these patients from their suffering is not by surgery or drugs but by having them adjust themselves to their handicaps. In our



opinion this is the most valuable therapy at our command today, and though the patient may still have his weakness, it need not cause him suffering.

—Lucius G. Gage.

#### A LESSON IN PREPAREDNESS

Some weeks ago a newspaper story\* appeared under the headline of a northern city to this general effect:

A daughter of a prominent citizen was bitten by a venomous snake; calls were sent out for *antivenin* and supplies of this remedy were being forwarded—one by train and one by airplane. A non-medical gentleman of the vicinity, who had recently returned from a hunting and fishing expedition into Florida, learned of the need and turned over a supply which he had provided against the chance of such an accident to himself.

Probably the patient owes her life to the foresight and sound sense of this sportsman who accepts the teachings of reliable scientists and applies them to his needs and risks.

Some months ago a shipment of antivenin was made to one of our eastern counties, and a squib was published about it under the caption, "A Pinch Hitter for Craven County Corn."

Few persons die in this or any neighboring state from the bites of serpents, but, so long as there is risk of even one coming to his end by that means, the agent which will prevent such a death should be kept within reach of every doctor, and every doctor should know where he can get it and how to use it.

It is well, too, to note carefully here an instance of leadership in scientific preparedness to ward off death being taken by a layman. If we would all apply ourselves fearlessly to leadership in health matters, we would find a following far more numerous and enthusiastic than we dream of.

RUCKER AND WHITEHEAD, Richmond (*Am. J. Obs. and Gyn.*, Sept.) report a case in which the tubes were demonstrated to be closed both by the Rubin test and by hysterosalpingography, and in which pregnancy followed without any treatment whatever.

\*A very courteous letter from the Director of the Bureau of Communicable Diseases of a nearby city corroborates the story with, "In fact the details are particularly accurate for a newspaper story."

This case is interesting in that it shows the folly of making dogmatic statements in dealing with cases of this kind. "On May 5, 1927, we inflated her tubes, but no gas entered under 200 mm. of Hg. pressure. We then gave her 1/6 gr. of morphine and 1/150 gr. of atropine and injected the uterus with iodized oil. Both tubes filled to their fimbriated extremities, but none entered the peritoneal cavity. The patient was advised that an operation offered a good chance of relieving her condition. She planned to come back in the fall for the operation, but sickness in her husband's family and one thing and another made her put off coming back to Richmond. On February 22, 1928, she again consulted one of us, not having menstruated since October 14. There was an abdominal tumor extending from the symphysis to the navel and unmistakable fetal heart sounds and fetal movements. The patient was delivered of a 7 3/4 pound girl, July 18, 1928."

IRRADIATION OF PREGNANT ANIMALS or human beings is a procedure extremely dangerous to the health of the offspring concerned (61.3 per cent defective), and in the case of human beings ought not be undertaken unless such existing pregnancies are to be terminated artificially prior to the period of viability of the child. As yet, it cannot definitely be stated that preconception maternal pelvic radium or x-ray irradiation is or is not prejudicial to the health of subsequent children.—Douglas Murphy, in *Surg., Gyn and Obs.*

"A CLEAN TOOTH will never decay," we have been told over and over, and most of us have accepted it as about as nearly true as a general statement can well be. Now comes a statement (Kappes, L. O., *Am. Jour. Dis. Child.*) based on statistical evidence that the only feature that seems to be of definite etiologic significance in preventing decay of teeth is a diet composed largely of fruits and vegetables. Heredity, infectious diseases and the care of the teeth appear to be of little, if any, significance. It is astonishing, and we hope care of the teeth amounts to more than that. Anyhow, we favor clean mouths and we mean to hang on to our toothbrush. It will be only just, though, to stop telling mothers it is their fault that their children's teeth decay.

## R. R. CLARK ON DOCTORS

(Statesville Daily, October 1st)

To the true physician the overcoming of disease, the desire to relieve the suffering and save life, becomes a passion. By study, research, experiment, medical men devote their lives and often sacrifice life, not for fame and fortune for themselves—for comparatively few of them win these—but for humanity. They devote themselves whole-heartedly to public health, to sanitary measures and instructions in the means of living designed to prevent ills, that in the final analysis mean a lessening of their business. But did anybody ever hear of a doctor worthy of the name refusing to co-operate to prevent epidemics of disease—smallpox, typhoid fever, diphtheria and similar ills that medical science has rendered comparatively harmless—on the ground that the lessening of sickness might cost him business? Certainly not; and the public would be amazed at the suggestion. But if one contrast that attitude of the medical profession with the attitude of other professions and business toward anything that they fear may interfere with their business, we get an idea of how far the medical profession stands above all others, with the possible exception of the clergy.

All of which may be considered commonplace because these things are well known to people who give them thought. But not so many people give them thought except in a superficial way. The large gathering of doctors in Statesville a few days ago suggested that these men were meeting not for pleasure, not for gain, but for the benefit of the balance of us. Of course the professional man—and the doctor more than any other—must keep abreast of the progress in his profession. But that very progress, more especially in the doctor's case, is for the benefit of humankind. In other words, the doctor gives more, contributes more to the improvement of the race, the physical and mental welfare of the people, than any other agency—and he literally gives more. He is expected to treat people—and does—without reward or hope of reward. He actually sacrifices to help those who can't help themselves, and the public permits him to bear unaided a burden in which it should often share and doesn't because it is known that the doctor will do the work.

It will also be noticed, in considering the doctor, that there is more ability in the medical profession than any other. Not only do the men of medicine take the highest rank in all branches of their profession and things related thereto, but they have taken high rank in other lines—especially in literature and in politics. Notwithstanding oratory has no real place in the doctor's work, a surprisingly large number of them are speakers and debaters of high rank. They are students of men and affairs outside their profession. They answer wherever duty calls, and they answer without counting the cost.

This isn't a new discovery. Looking over the doctors and hearing them talk in their meeting in Statesville the other day suggested that the laity do not really appreciate the unselfishness of the medical profession, so accustomed are we to taking them as a matter of course; and that as a matter of simple justice the nobility of their unselfishness should be mentioned.

## A WORTHY FIRST FOR NORTH CAROLINA

North Carolina is the first state to complete systematic tuberculin testing of all cattle within its borders, thereby becoming the first entire state to be classed as "modified accredited area."

A "modified accredited area" is one in which less than one-half of one per cent of the cattle are infected with tuberculosis as shown by official test.

Approximately 600,000 cattle were tested during the campaign which began in 1917, and was completed in October, 1928.

Of the 3,877 tuberculous cattle removed by the test, 700 were diseased to such an extent that the disease had become generalized.

Compensation paid the farmers for condemned cattle by the state and federal governments totalled \$150,000.

Of the 100 counties in the state there were 12 in which no tuberculous cattle were found.

North Carolina has a human population of 2,897,000.

South Carolina newspaper says that Governor Richards takes too seriously the charge that somebody put liquor into the automobile in which he was riding, and adds that what the governor needs is a sense of humor. Maybe a sense of smell wouldn't hurt.—Greensboro News.

## DEPARTMENTS

### HUMAN BEHAVIOR

THE PUBLIC, THE DOCTOR AND THE LAW

For this issue, WM. RAY GRIFFIN, M.D., Asheville  
Appalachian Hall

There are no other three things that are more intimately related perhaps than the public, the doctor and the law. The public feels that it cannot get along without the doctor and the law; and the doctor and the law are most certainly dependent on the public. While the public feels the absolute necessity of the doctor there is a great deal of truth expressed by Uncle Henry, writing in *Collier's*, when asked if he had been "enjoying good health," he replied: "Where on earth did you get the idea that one ever enjoyed good health? Nobody does. Why, bless your soul, Barney, ailments are the keystones in America's arch of happiness. And interior decoratin' with medicines of various kinds is the national game. Patients die, fame fades and success palls, but when you put your imagination to work on a good satisfactory ailment you have got something that is able to stand the acid test of time." In spite of the fact that thousands of people enjoy their ills and many of them suffer rather from "complaints" than from definite pathological conditions they are quite as much in need of the ministrations of a physician as are any of the sufferers from any organic disease.

I am reminded here of the story of a boyhood neighbor who was "ailing" and sent for the family doctor, who was a very busy man and arrived two days late and then stated the neighbor did not need a doctor. The patient promptly replied that he might not know when he needed a doctor, but he did know when he wanted one. In these cases the doctor helps to take the brakes off their resistive vitality and nature goes on with her ordinary curative reaction, restoring them to health.

Besides coming in contact with each other as doctor and patient, they frequently come in contact with law in the court room. 'Tis here that many things are misunderstood by the public. 'Tis here that the doctor comes on usually as a witness-of-fact or as an expert

witness.

In the early history of our courts testimony was confined to the statements-of-fact witnesses. The members of a jury were selected with reference to their special fitness to consider the facts involved in a given case. If the case concerned the cost or value and workmanship of a saddle the jury was composed of saddlers; if house-building was involved in the case at issue, the jury was made up of carpenters, stone-masons or others actively employed in the building trades. As society became more complex and the cases in court more numerous and more varied, it became impractical to select "specialists" as a jury to pass on the claims and counter claims in each issue. Questions began to arise about which the average man on a jury knew little. The courts found it necessary in some cases to call in some one specially skilled with reference to the facts at issue to aid the court and jury in correctly interpreting the facts. Thus it was that the expert was developed out of the very needs of the courts for such knowledge as he possesses, whether it be chemistry, real estate values, engineering or medicine. Medical experts were called as early as 1550. The giving of expert medical opinions in court did not become established until the eighteenth century. Briefly an ordinary witness or witness-of-fact is one who testifies as to matters of fact as he himself has learned them through his own special senses. He may state what he knows of his own knowledge, making no use of hearsay evidence and drawing no conclusions from facts presented.

An expert witness is one who testifies as to the facts gained by himself through his investigations of the case and the deductions which he draws from these facts or from the facts introduced into evidence by others. His functions are essentially judicial, his conclusions being the results of a process of reasoning which can be determined only by special scientists through their experience and training in the field involved in the inquiry. Experts must qualify as such by professional,



scientific or technical training or by practical experience in some field of human activity which confers on them an especial knowledge not shared by men in general. Superior qualification is attained when the two are united in the same person. In no class of cases is the use of expert testimony so general and so necessary as that in which the issue is sanity or insanity. Unless the person whose mental condition is to be determined is a raving maniac or a complete dement the average jury is not competent to reach a decision.

There are a number of reasons for the use of experts. These can only be mentioned here.

1. It is a question of importance as to whether the state has a right to take a life for any crime and especially is this true if the so-called criminal be a mentally sick man.

2. The measure of culpability and the measure of punishment cannot be determined by a study of the illegal act, but only by a study of the individual committing the act.

3. Because it is quite evident that the nearer we get to the marrow of criminality the more closely it approximates pathology.

4. Insanity is sometimes so hard to detect, because of its many elusive and varying types.

5. An expert supplies all the many facts about the defendant and the acts of commission of which he is accused, in addition to those that appear on the surface and which, because of his training, only he is able to obtain for the use of the court and the jury in arriving at their conclusion.

However, in spite of all that may be done by the expert, it is generally the feeling of the public that he is a partisan hired by an individual or individuals to deliver goods bought and paid for by them. This has brought much discredit on both the medical and legal professions. This state of affairs is brought about by the indiscreet use of experts in the courts. A crime is committed by an individual, a plea of insanity is set up as defense, an expert is employed and put on the stand, a hypothetical question is asked supposedly to be a summary of the actions of the accused. It is so framed that the expert answers rightly that he or anyone in the condition described is insane. The prosecution asks the same expert a hypothetical

question supposed to be a summary of the actions of the same person, but frames his question from *his viewpoint*, and the answer is that the person is not insane. If hypothetical questions are not used the cross examinations are of such a nature that it usually creates in the mind of the jurors a distortion of facts. At the best it is almost impossible for a jury to grasp intelligently the evidence as given.

Not long ago in this state a paranoiac who had been tried in a different state and declared insane had made his escape from the hospital, gone out of the country, but finally came back to North Carolina and eventually, by his efforts, his citizenship was restored. He then began litigations which were very annoying to his relatives and others as well. An effort was then made to have him declared insane in order that this might be stopped. The plaintiff was represented by one of the best legal firms in North Carolina; the defendant was represented by one young attorney, and the trial was conducted largely by the defendant himself through this young attorney. The plaintiff had three experts who had gone carefully into the history of his case, had seen all the records of his case, in which he had been declared insane in another state, all of which showed the defendant to be a paranoiac without question, and they so testified. The defendant had two practicing physicians of the community where he was living who made no claims to a knowledge of psychiatry or insanity but who stated that, so far as they knew, there was nothing wrong with the man's mind. After about three days had been spent producing all the evidence, and after able arguments by the attorneys, the case was turned over to the jury who were unable to agree and a mistrial resulted. The man still has his freedom in the state, and has been in litigation or attempting to start some, practically all the time since then. This case is only one of many which prove how futile it is to try to use experts as they are used in court today.

Time and space will not permit an intelligent discussion of such a big and interesting subject here; suffice it to say that the public, the doctor and the law are not working harmoniously to mete out justice to the criminal who is insane or who is trying the "in-



sanity dodge" as a means of escaping justice.

Many remedies have been suggested and tried but none has brought about a solution.

Here are two suggestions that probably would materially help to deal out justice to all criminals who make the plea of insanity in defense of crime.

First, and the less desirable of the two, is to have a committee of three psychiatrists to make a thorough examination of each individual accused, and the findings be submitted with all reasons or evidence for their conclusion to the court.

Second, that anyone making a plea of insanity as an excuse for a criminal act be placed in the State Hospital for the Insane of his district where there are those who know and make a constant study of the insane. Here he could be observed, which is one of the big factors in forming a conclusion of the condition of such individuals; and he could be studied as often and as thoroughly as desired and for as long period as necessary. This plan is better than the first suggested because here the psychiatrists live. Not one but several may study him, discuss his case in staff meetings and come to a definite and correct diagnosis. This too should be submitted to the court with all reasons for the conclusions reached, in order that the court may know why such diagnosis is made. If there should be a flagrant error or any reason to believe there is one, further examinations could be made, but this would be exceptional.

A report of this kind coming from the heads of institutions where a thorough study has been made of the case should be accepted by the court as final because the physician of a state hospital would be unbiased and would have every opportunity of making a thorough and impartial study of the case.

It has been found that more than 50 per cent of all criminals in jails and penitentiaries are either mental defects or mental cases of some kind. This fact only expresses a more urgent need for some sane solution of trial and punishment of the mentally sick criminal.

#### WHAT'S WRONG AND WHAT TO DO

*Patient*—"Doctor, I can't tell how I feel, I am anyhow, it took me suddenly. I don't know how—I am not very well, I can't tell you why."

*Doctor*—"Take this prescription for I don't know what to the chemist; take it I don't know how many times a day and you will be cured—I don't know when."—Cincinnati *Enquirer*.

## PEDIATRICS

FRANK HOWARD RICHARDSON, M.D., *Editor*  
Black Mountain, N. C.

### ERGOSTEROL FOR RICKETS

Rickets, cod liver oil, and the antirachitic vitamin *D* are specially "live" subjects just now,—almost too live, some overburdened parents and doctors are inclined to feel, now that the parental and medical intelligentsia are insisting that no child can grow up to healthy manhood or beautiful womanhood without his or her three teaspoonfuls of cod liver oil three times a day. Unfortunately, no one knows just how much of the essential factor is needed,—whether three teaspoonfuls of cod liver oil, or one hour of sunshine, or four minutes of ultraviolet radiation, is too much, not enough, or just the proper amount.

And now comes along *ergosterol*, that much-vaunted magic something that by irradiation can endow with specific antirachitic properties oils, milk, cereals, and other food substances. Just what is this?; can it actually replace nauseous cod liver oil?; how does it work?; and how much of it is needed to do the trick?

Fools,—and all of us are in the fool class, of very necessity, when such a new substance as this is first brought to our attention,—can ask wise questions that even the wisest of the wise are sometimes unable to answer. Fortunately for those of us who admit that we are still in the group of the uninformed with regard to ergosterol, there is a wise man at hand who not only can answer our questions, but does so in such a simple and understanding way that we cannot fail to understand them,—not always an accompaniment of wisdom, sad though it makes us to have to admit it.

In this case, the wise man is Alfred Fabian Hess,—the same man who started us to using tomato juice,—even canned tomato juice!—in place of orange juice, when the high cost of the latter made it difficult to ensure the antiscorbutic vitamin for institutional children. Not only is Hess that rare combination, a brilliant research man and a keen clinician; he adds to these abilities the even rarer ability, that of telling about his researches and his clinical checking of them, in such a way that the doctor in the Ford, like the man in the street, knows and can put into practical use what he is talking

about. He writes in the September 15th number of the *Journal of the American Medical Association*; and this writer makes no apologies for quoting from this latest article of his without using quotation marks. It is impossible to simplify what he says,—for he has said it so simply that it needs no further clarification. Abstracting is as much as can be safely done to the original.

Hess tells us, then, that there is a substance that can best be obtained from the fungus that develops in ergot (hence called ergosterol, because it is a sterol), that can be endowed with powers far higher than those of cod liver oil (some hundred thousand times as powerful!), by simply subjecting any food containing it to the action of the ultraviolet ray. It is potent for both prevention and cure of rickets as well as of tetany, the nervous manifestation of rickets; and its effect is very rapid indeed, far more so than that of any other known antirachitic. Beading of the ribs becomes less distinct, calcification of the epiphyses becomes evident, craniotabes disappears rapidly, inorganic phosphorus reaches its normal in the blood, and calcium is similarly raised to normal.

Hess very fairly raises the question as to whether this enormously multiplied potency as compared with the ordinary antirachitics, may not contain an element of harmfulness; and is frank enough to admit such a possibility, citing two instances in which the heightened amount of calcium caused fever and loss of weight. This is still under investigation. While he confesses that he is not yet satisfied as to the *modus operandi* of the drug, he plainly suspects participation by the parathyroid glands, which he thinks are stimulated by ergosterol.

For those ardent spirits who are not willing to await the results of fuller studies before themselves undertaking the exhibition of the newly discovered agent, Hess "tentatively formulates the matter of dosage" as follows: for a baby growing at the normal rate, a daily dose of 0.5 mg. as a prophylactic, and 1 mg. for the average case of rickets. He says that these amounts are equivalent to about 7 and 14 teaspoonfuls daily of high grade cod liver oil and should be sufficient. They may be begun at one month.

The conclusions appended to the article are most helpful. They are as follows:

#### ADVANTAGES

1. Irradiated ergosterol is by far the most potent of the antirachitic agents.
2. It is an absolute specific for both rickets and tetany.
3. It is remarkably rapid.
4. Cod liver oil as a specific is of limited dependability.

#### DISADVANTAGES

1. Its dosage is not yet definitely understood.
2. Its various preparations have not yet been properly evaluated.
3. The amounts now recommended are unnecessarily high, inducing an excess of calcium and of inorganic phosphorus in the blood.
4. Too great emphasis has been laid upon its rapidity of action.

Hess summarizes the new drug frankly, restrainedly, but undoubtedly most enthusiastically, as follows: "In view of its reliability, its high degree of activity and its ease of administration, irradiated ergosterol should prove a most valuable addition to our rapidly increasing fund of specific antirachitic agents."

---

#### DENTISTRY

W. M. ROBEY, D.D.S., *Editor*  
Charlotte, N. C.

#### ODONTALGIA (TOOTHACHE)

"Pain—(Latin—*poena*; a penalty) a peculiar disagreeable sensation produced by over stimulation of a nerve of general sensation."

There is no distinction realized by the sufferer between real and imaginary pain. This is illustrated by the reluctance of one who has had real toothache to visit the dentist. Or the imagination has been so impressed with the image of some real sufferers from pain that its owner is a sufferer without a pain. This in spite of the fact that the outstanding achievement of modern medicine is its ability to control pain. To this accomplishment dentistry has contributed her part. Nobody loves a dentist, but his record is such that for pain in his field—real and imaginary—he must be consulted without delay.

The dread of the ordeal is first allayed by the administration of one of the more recently developed drugs of the barbituric acid

series. Then the type of toothache is determined. There are at least eight types of toothache, each requiring its logical treatment.

*First.*—Sensitiveness to touch—often to sweets and sour— at the necks of the teeth due to hyperacidity either of the secretions or of the products of acid-producing bacteria held in a mass of mucus and food stuffs.

The remedy is to remove the cause by cleansing, then neutralize the acids with slowly soluble antacids such as prepared chalk and milk of magnesia.

*Second.*—Pulpitis—a real neuritis due to inflammation of the dental pulp, usually due to infection or trauma, and usually highly sensitive to both hot and cold. Counter-irritation is indicated—iodine, Cayenne pepper on half a split raisin. If a cavity is present apply any of the essential oils on cotton. Often an alkaline tooth-paste is at hand—apply without pressure. If pulp is accessible bleeding will often reduce the pressure and relieve the pain. Application of local anesthetics is usually useless, as they are irritating to inflamed tissue. It is often necessary to anesthetize the tissues beyond the area of inflammation in order to gain access to the pulp. The pain is often so excruciating that general anesthesia is indicated for a drastic treatment.

*Third.*—Putrescent pulp—decomposition of the pulp tissue due to infection. Sensitive to heat due to pressure induced by the expansion of gases of decomposition. Cold relieves by causing contraction of gases in the closed bony box of the pulp chamber. Opening into the pulp chamber releases the gases, relieves the pressure and the pain, and is the first step toward treatment for sterilization and root canal filling.

*Fourth.*—Pericementitis—the inflammation extends beyond the confines of the pulp chamber and canal to the pericementum. In addition to an exacerbation of pain by the application of heat the tooth is sore to touch, elongated and more or less loose, due to the swelling of the peridental membrane.

Establishing drainage by opening the pulp chamber, and counter irritation usually gives relief.

*Fifth.*—Acute periapical abscess—an osteomyelitis around the apex of the tooth due to the spreading of the infection into the alveo-

lar process and body of the bone. The pain is severe, the tooth may be sore and loose, tenderness and possibly swelling may appear on the gum opposite the apex of the root.

Pus is present and drainage indicated, either through the root canal or gum, counter irritation is contra-indicated; application of cold may retard pus formation. Local application of drugs has no effect unless free drainage is established. Local anesthesia is difficult to establish.

*Sixth.*—Peridental abscess—infection usually gaining access between the free margin of the gum and the tooth. Symptoms are similar to the periapical abscess except as to location. The tooth may be vital with slight soreness to percussion.

Establish drainage by lancing, and apply a penetrating antiseptic such as iodine, gentian violet or acriflavine.

*Seventh.*—Periclasia—an acute inflammation of the gingival margin of the gum due to trauma of the tooth brush, food packing between the teeth, tartar, etc.; incipient pyorrhea.

Remove the cause, and treat with mild antiseptics, as iodine, gentian violet acriflavine, mercurochrome.

*Eighth.*—Vincent's infection—one of the differential symptoms is pain. Is due to Vincent's spirochetes and fusiform bacilli and other organisms constantly found in the mouth.

Treat with local application of 2 per cent solution gentian violet and acriflavine once a day, using 1 per cent solution hydrogen peroxide as mouth wash every two hours.

The first five types mentioned are progressive steps toward relief by the forceps, and the prognosis of each step is progressively less favorable to the salvation of the tooth, the physical condition of the host as well as the relief of the pain being often a deciding factor.

---

"American chewing gum has gained a foothold in Japan," says an exchange. It's faculty for gaining a foothold is its most unpopular feature in this country.—*Boston Transcript*.

---

"Give me a ticket to Chicago."

"Have you a reservation?"

"Say, what do you think I am—an Indian?"—*The Oklahoman*.



## EYE, EAR, NOSE AND THROAT

*For this issue, F. L. SMITH, M.D., Charlotte*

### TREAT SQUINT EARLY

The importance of the earliest possible treatment of a cross-eyed child is generally misunderstood by the laity. The prevalent feeling of "wait and see," which has developed through generations, is exceedingly difficult to alter and often causes neglect of the strabismic child until his condition is incurable. It is true that before the days of the retinoscope it was necessary to wait until a child could read before an accurate refraction was possible, but today such an opinion is obsolete.

The commonest type of squint is due to excessive accommodation; i. e., the child is far sighted. It is first noticed between the ages of one and four when the beginning attempt at accurate and long maintained fixation puts more strain on the accommodation. In its beginning the constant wearing of a glass which fully corrects the hyperopia relieves the tendency of the eye to turn in. If the hyperopia is left uncorrected complications soon arise which make a cure much more difficult.

Until the age of five binocular vision is developing. To develop binocular vision it is imperative that the eyes be straight. Under five years of age a much greater percentage will be cured than later. After ten years the percentage of cures is small. Of 100 cases under ten years followed for a year or more, 33 were perfectly straight and 55 of the remainder were definitely improved. Had this series been limited to five years instead of ten the percentage of cures would have been larger.

After the squint is thoroughly formed the habit of turning the eye in has to be broken. This is hindered by the not-to-be-forgotten fact that from disuse the squinting eye loses its vision more and more as time goes on. This loss of vision may reach the point that it is never restored, thus hindering binocular vision and a cure.

Just here it is well to say that with an intelligent parent the difficulty of getting a small child to wear glasses is more apparent than real.

From a cosmetic standpoint operation is very satisfactory for straightening this type

of squint after the stage that glasses will cure, but why should such a patient wait until an operation is necessary when glasses would do more earlier? Remember that the constant wearing of glasses is still necessary after all operations.

Squint cases should begin treatment as early as they are detected, the earlier the better.

## LABORATORIES

*For this issue, NANNIE M. SMITH, M.A.  
Charlotte*

### ANDREWES' DIAZO TEST IN UREMIA

C. H. Andrewes, in performing the Van den Bergh test on a series of patients which included sixteen persons suffering with nephritis, noted a color reaction which was obtained with the serum of these patients but which was not obtained with the serum of normal persons, or with that of patients suffering from diseases other than nephritis.

The Van den Bergh test consists of two types of reaction, the direct and the indirect: the direct occurs when the diazo reagent is added to blood serum which contains an abnormal amount of bilirubin; the indirect, when the reagent is added to an alcoholic extract of serum. A pink color due to azobilirubin is obtained, which varies in intensity with the amount of bilirubin present in the serum. With an alcoholic extract of the serum of the sixteen patients suffering with nephritis, Andrewes obtained, instead of the usual pink color of azobilirubin, an orange-buff color which gradually deepened over a period of twenty-four hours. At the end of this time the solution was made alkaline with caustic soda in order to test it for the green color which is characteristic of azobilirubin in the presence of alkalis. Instead of the green color, however, a cherry pink color appeared which disappeared on standing. Weaker alkalis, such as ammonia and sodium carbonate, did not give this reaction. Andrewes obtained this reaction only in patients with severe uremia. He found that it might occur in any of the clinical types of uremia, and that patients dying of a definite uremia always showed the reaction. Andrewes' method of applying the diazo reaction to uremic sera has been modified by L. F. Hewitt. The alcoholic extract of serum, to which the diazo reagent has been added, is boiled



for thirty seconds, instead of allowing it to stand for twenty-four hours. The pink color is then obtained upon the addition of caustic soda. Hewitt, working on twelve uremic patients, confirmed Andrewes' results with the diazo test. He observed that the intensity of the reaction does not follow the variations in the concentration of urea in the blood but that it does follow, roughly, the severity of the symptoms. Blotner and Fitz made the diazo test on several hundred blood plasma and serum specimens from patients with a variety of diseases. They did not obtain a positive test in cases which did not show renal insufficiency. They made the tests on the serum or plasma of thirty-six patients with advanced nephritis and renal insufficiency, and found a positive reaction in all of these cases. They found that a positive test was usually followed shortly by the death of the patient, but that occasionally it was present for a long interval before the development of a fatal uremia. A positive diazo test was not obtained by these investigators in any patient able to excrete more than a small percentage of phenol-sulphone-phthalein in two hours. They did not find a parallelism between the urea-nitrogen concentration and the appearance in the blood of the substance producing the diazo reaction. A positive test was sometimes obtained before there was any marked retention of blood nitrogenous substances. Attempts have been made to discover the substance which produces Andrewes' reaction. Andrewes demonstrated that it is not caused by urea, uric acid or creatinine. Hewitt, after performing a number of experiments to determine the cause of the reaction, suggested that a cyclic amine, such as histamine or tyramine, might be responsible. Harrison and Bromfield failed to confirm this hypothesis. They obtained a positive Andrewes reaction with certain indoxyl compounds including potassium indoxyl sulphate (indican). They found that all the sera which gave a positive Andrewes reaction also gave a positive Jaffe test for indican, but that the Jaffe test was less sensitive than the Andrewes test. They concluded that the substance in the blood of uremic patients which gives Andrewes' reaction is an indoxyl compound, probably indican. The Andrewes blood diazo test promises to become a test of practical value in clinical work. It is a simple test

and does not require much time for its performance. It is of value in differentiating uremic coma from other types of coma. A positive Andrewes test is found only in uremia or severe renal insufficiency.

## ORTHOPEDIC SURGERY

O. L. MILLER, M.D., *Editor*  
Charlotte, N. C.

### ACUTE HEMATOGENOUS OSTEOMYELITIS

From small sores on the extremities, from infected tonsils, from acute infectious diseases and from miscellaneous foci in various parts of the body, children are constantly coming down with acute bone infections. Once the disease strikes, a life is threatened by the bacteremia, and if life is saved a deformed extremity is a potentiality.

There is generally saner, more intelligent and more conservative work now being done in the management of osteomyelitis than ever before. This is to a large degree the result of studies and experience accruing from the surgery of the late war.

Beekman, reading before the New York Surgical Society in April, defines acute hematogenous osteomyelitis as a suppurative, inflammatory process in a bone, the infection being deposited through the circulation. Consequently, for the development of a focus of osteomyelitis, it is necessary that there be bacteria circulating in the blood and that there be a point in the bone where the conditions are such that the bacteria may lodge and grow.

"The requisites for the successful treatment of acute hematogenous osteomyelitis are an early diagnosis, an early operation, sufficient drainage of the infected portion of the bone performed with as little damage to its circulation as possible and properly combating the blood infection.

"The immediate complete elimination of the infectious lesion, within a bone, is not possible unless such a radical procedure as an amputation of the limb or possibly the resection of the complete diaphysis is performed, and in the latter case infected tissue will probably be left behind. On this basis, not so many years past, complete resection of the diaphysis of a bone in acute osteomyelitis was advised by many surgeons. In but few cases could this have resulted in immediate cure of the infection, and in addition it

led to a long postoperative convalescence and frequently marked deformity. In most cases this type of operation was not indicated and much tissue that would have otherwise remained viable was sacrificed. Amputation, resection of a diaphysis, and curetting the medullary cavities are radical procedures which are followed in most cases by deformities which can be directly ascribed to the operative procedure, and are only mentioned to be condemned. (Amputations are undoubtedly indicated at times to save life, in certain cases of prolonged sepsis.)

"We all know that frequently patients suffering from acute osteomyelitis are treated for days as acute rheumatic fever. To the medical student and physician it should be taught what are the early symptoms of an osteomyelitis; that the only local sign in the beginning is a point of tenderness over the diaphysis of the bone, and that by the time swelling and redness of the part appears, the infection has usually advanced into the medulla and out under the periosteum. Starr lays particular stress on the fact that pus will generally be found in the bone under the point where the tenderness has been demonstrated. We still frequently hear physicians say that as the x-ray showed a normal bone structure they did not think the case was one of acute osteomyelitis. The roentgenogram will not show inflammatory lesions within a bone until lime salts have been absorbed, producing a rarefaction of the bone, or new bone has been formed by the osteo-genetic layer of the periosteum. This does not take place until two or three weeks after the onset of the disease, and consequently the x-ray is of little or no use in making a diagnosis in the early stage of an acute osteomyelitis.

"Operation should be performed as soon as the diagnosis is made. The point of maximum tenderness over the bone should be ascertained before the child is placed under an anesthetic. The incision should be planned so as to drain directly the infected point within the bone, without damaging important structures overlying it. It should be placed over the point of maximum bony tenderness. The incision in the soft parts should be sufficiently long. The incision into the periosteum should be relatively shorter, and the membrane should, under no circumstance, be stripped from the bone further than it is

already separated. The bone should be drilled in several places with a quarter inch bit. If pus is obtained a small trap-door can be opened into the bone with a gouge. Under no circumstances should the contents of the medullary cavity be disturbed. Though pus be found under the periosteum the bone should nevertheless be opened. If on drilling the bone, pus, under only slight pressure, is obtained without blood, the probabilities are that the medullary circulation at this point is destroyed. If a few drops of pus are evacuated followed by free bleeding the probabilities are that the infection has not produced marked destruction within the bone.

"Frequently mistakes are made in diagnosis. Bones have been drilled and no lesion found. The medullary cavity has been opened to find it normal and pus later has been discovered in another part. In such cases the normal tissue exposed at first has not been infected by the pus from the second opening. Since giving up the more radical incision, the period of time until healing is complete, in individual cases, has apparently been shortened; the sequestra have been smaller in size; the bone, when finally healed, has shown less sclerosis and there has been a smaller scar and more soft tissue covering the surface of the bone than formally.

"Placing the limb at rest is of importance. Homans in his article in 1911, lays stress upon this, and recently Orr has emphasized its importance in the treatment of osteomyelitis and infected wounds. The part should be immobilized in proper splints or possibly by suspension with slight traction. In addition to the good effects of immobilization on healing, splinting is of importance so as to have the parts in proper position when repair is completed.

"It must not be thought that treating the local condition is all that is required. Increasing the general resistance of the individual is of great moment. Rest, fresh air, and proper feeding are necessarily included. Fluids should be forced, when necessary hypodermoclyses should be resorted to, to prevent blood concentration. Multiple blood transfusions have been very beneficial in combination sepsis.

"It seems needless to say that no attempt should be made to remove sequestra until the x-ray shows a strong involucrum and a com-

plete separation of the necrosed bone. Sequestrectomies should be performed through small incisions, due respect being paid to the blood supply of the diseased bone.

"Emphasis must be laid on the fact that it is the patient, and not the disease, that should be treated. No two cases of acute hematogenous osteomyelitis are exactly alike. The disease may vary from that of a well-localized focus to one in which the lesion within the bone is but a part of a general circulatory infection. The intensity of the disease is dependent upon the virulence of the infecting organism in relationship to the resistance of the individual.

"From the operative standpoint, it is required to eliminate the point of infection from which organisms and toxic substances are entering the blood, and to prevent further destruction of the bone. This must be done as soon as possible after onset of the disease, and in such a manner that the procedure does not defeat its purpose, by removing further circulation from the bone and thereby adding to the deformity. The radical operations advised in the past should not be practiced, as simple drainage gives the best result."

---

## UROLOGY

HAMILTON W. MCKAY, M.D., *Editor*  
Charlotte, N. C.

### STRICTURE OF THE URETHRA IN THE FEMALE

For years I have been interested in the familiar type of female patient who presents herself complaining of the well-known triad of subjective urinary symptoms—frequency, burning, and difficulty on urination. In this particular type woman there is usually a marked neurosis, but if a careful history is obtained and if the patient is put under observation one is impressed with the earnestness of the complaint and the genuine urinary discomfort the patient is suffering. A catheterized specimen of urine from such a patient is usually clear, it may contain a few pus cells but very often it is negative throughout.

In our eagerness to thoroughly investigate the kidneys, ureters and bladder and to locate the pathology in the upper urinary tract, it is

easy to understand how readily we overlook the female urethra. Not unlike many other problems in life, we first employ very difficult and tedious ways to solve them and are chagrined to find the solution simple when found out. Our female patient has been put through the "urological mill," cystoscopy, double ureteral catheterization, uretero-pyelogram, with all of the added refinements of diagnosis known to the urologist. No pathology has been found, yet every urologist is aware of prompt and marked improvement that sometimes follow a single dilatation of the urethra, perhaps by the simple passage of a cystoscope or catheter.

If this type of urethra is carefully examined and calibrated, often a narrowing or a definite stricture will be discovered. It is not unusual to find that no careful investigation has been made of the urethra of a woman with urinary symptoms. Such oversight is quite natural if we are prepared to accept the idea that stricture in the female urethra is uncommon or if we obtain our information from our standard text books on gynecology.

Graves, in his second edition of 1921, page 262, says "stricture of the urethra is not a common affection in women. It is usually due to gonorrhea, but may be due to injuries at childbirth." Norris, in his splendid work "Gonorrhea in Women," page 211, says "stricture of the female urethra is of comparatively infrequent occurrence. It is generally annular in type and situated near the external urinary meatus, although any part of the canal may be involved."

My interest in stricture of the urethra in women was first aroused by an article of Dr. Wm. E. Stevens of San Francisco, published in the *California State Medical Journal*, February, 1922, from which I take the liberty to quote frequently. In reviewing the literature Dr. Stevens finds that Skene says in his book, the form of stricture that will most often come under your consideration will be a contraction of the meatus urinarius produced in many cases by too liberal use of caustics in the treatment of abnormal growths at the lower end of the urethra, or from vulvitis. Dr. Stevens calls attention to the fact since this subject was first mentioned by Lisfranc about a hundred years ago, only two or three noteworthy contributions have occurred in



the literature, since that time Dr. Stevens calibrates the urethra in all women and men who complain of urinary symptoms. He finds the average sized urethra of a woman to be 26F, or a little less than nine millimeters. He believes that a female urethra below 26F, is usually abnormal and clinical improvement following dilatation has justified his conclusions. The youngest patient in his series was three years and the oldest sixty-nine years. Hunner found urethral stricture in 85% of his patients with ureteral stricture and believes that focal infection may have some bearing as an etiological factor.

The causes of stricture in the female urethra are:

1. gonorrhea
2. injury to the urethra during childbirth
3. congenital malformations
4. application of caustics.

It is the annular type of stricture caused by an infection of the Skene's ducts or the urethral glands, that completely surround the external urinary meatus that most often causes troublesome symptoms.

Marked frequency with burning and smarting after the voiding with a clear urine should make the examiner suspicious of a diseased urethra. Pain of an indefinite, indescribable kind which may be in the vulva or along the course of the thigh, but with no typical course, should lead one to carefully investigate the urethra.

The following case, reported in brief, illustrates a typical case history of stricture in the female urethra:

A married woman 46 years old presented herself for examination August 7th, 1928. She was seeking relief from a "scratching, burning sensation" in the region of the labia majora and external genitalia. She could not describe her trouble any more definitely than the above description, though she was an unusually intelligent woman. This discomfort in the region of the external genitalia was sufficient to make her nervous and miserable and to completely incapacitate her. There was nothing in the family history of importance. She was the mother of three children and had been perfectly well until May, 1927, when she began to have a scratching sensation in the region of the labia majora,

at first two or three times a day and then it became constant. After a time the scratching sensation changed to burning. Discomfort was confined to the left side.

Examination of a catheterized bladder specimen showed a trace of albumin, pus and bacilli. Cystoscopy and ureteral catheterization showed bilateral low grade renal infection. The outstanding pathological finding was a definite annular stricture surrounding the meatus urinarius.

The patient was relieved of all symptoms after renal lavage and dilatation of the stricture of the urethra. Not until the urethra was completely and in fact over-dilated, was relief complete.

Stricture of the urethra in women may be a relatively rare condition as far as a definite narrowing of the canal is concerned, but annular stricture of the urinary meatus is frequently found and often overlooked. Women with non-typical symptoms of the urinary apparatus should have a careful examination of the urethra and the canal should be calibrated in all suspicious cases.

## RADIOLOGY

JOHN D. MACRAE, M.D., *Editor*  
Asheville, N. C.

### CANCER OF THE MOUTH

The American Society for Control of Cancer has been collecting and disseminating information about cancer for the past ten or fifteen years. Various other institutions and individuals are also engaged in this educational work. As a result, doctors are more alert in recognizing malignancy and people generally are quicker to present themselves for examination and treatment in the presence of lesions which create a fear of cancer.

Naturally more cases of malignant disease are diagnosed and this makes it seem that cancer is more frequent in its occurrence. At the same time cancer statistics are being subjected to rigid analysis by experts in this field of study and they are convinced that there is actual increase as well as the seeming increase which is resulting from the propaganda.

In 1900 the death rate of cancer in the then accepted registration area was sixty-three in every thousand deaths; in 1924 the cancer death rate had increased to ninety-one



and nine-tenths in every thousand deaths. It is estimated that for each person dying of cancer there are three living cancer cases which will eventually be fatal. One hundred and three thousand cancer deaths occurred in the United States in 1924; therefore there were well over 300,000 people fatally sick with cancer in our country that year. Cancer of the mouth occurs in 3.2 per cent of the total in all parts of the body; therefore 9,600 people of our population had cancer of the mouth in 1924.

Four years have passed since these figures were established and the increase of cancer was taken to be at the rate of over one per cent a year, so that in this year there are more than 10,000 people in the United States due to die of cancer of the mouth.

Cancer is not a reportable disease and our statistics are compiled from death reports only. They do not consider the many cases of malignant disease which will die from some other cause or be cured. Cancer is very prevalent.

We do not know the basic cause for cancer. It is a condition where a group of cells grow malignantly tending to invade adjacent tissue. The restraining influences which belong to normal growth are lacking and cancer cells reproduce rapidly.

No parasite is constantly found in cancer and no germ has been isolated which can cause cancer as the bacillus of Koch causes tuberculosis. It is non-contagious and non-infectious.

Heredity of cancer is still a debatable question. Some of our best authorities say that its influence is so remote that it may be disregarded. At the same time most of our patients with cancer tell us that one or more of their immediate forebears or relatives have suffered with malignant disease, and Dr. Maude Slye has demonstrated heredity without doubt in her most remarkable animal experimentation.

The one great outstanding cause in cancer production is chronic irritation. Many instances may be cited; as uterine cancer occurring in the scars which follow the lacerations of childbirth. If immediate surgical repair is done scars are reduced to a minimum and cancer is prevented. Gall-stones precede cancer of the gall-bladder. Gastric ulcer sometimes degenerates into cancer, and hem-

orrhoids precede cancer of the rectum.

Directly applicable to our subject are the chronic irritations about the mouth which stimulate the production of new growths of the lip, cheek, tongue and gums. Here the dentist bears a great responsibility, and here should be a hearty co-operation between physicians and dentists. Oral sepsis is the forerunner of many diseases and it is no doubt true that malignant disease does not develop in a clean mouth.

Tobacco is irritant to mucous membrane, and mouth cancer is three or four times more common in men than in women. A broken tooth or a badly fitting dental plate is often found to be the irritating cause. Habitually taking food and drink which is overhot is often found to be an item in the history of patients with mouth cancer.

Cancer of the mouth quickly becomes inoperable and if allowed to advance will destroy life. After the submental and sublingual glands are involved extensive surgical operations, cauterizations and x-ray or radium treatment must be done in order to save life.

Syphilitic lesions which cause chronic infiltration of the tissues and other prolonged accidents and irritations are responsible for cancer of the lip, tongue, cheek and gums.

Leucoplakia is a precancerous condition of importance. It is recognized as one or more white plaques of thickened horny epidermis beginning as small points and growing larger until the greater part of the buccal mucous membrane is involved. Spontaneous recovery may rarely occur. The disease often persists for years as a hyperkeratosis. At any time it may cause the development of cancer.

A case, recently seen, illustrates cause and effect very usefully. A well nourished country woman of forty-five, the mother of a large family, accustomed to hard work, suffered a long time with sore mouth. The mucous membrane of her right cheek and gums were covered with patches of leucoplakia. Since childhood she has used snuff excessively, habitually carrying a gob of it in her right cheek. The white patches had been present for more than ten years. The patient's teeth had been extracted on the affected side but the use of tobacco had not been stopped and there had been no improvement. Before the teeth had been pulled the mucous membrane of the cheek opposite the molars became in-

filtrated and nodular. This area had a tendency to bleed. There was no enlargement in the submaxillary or submental glands. Here we have tobacco causing leucoplakia which has, at last, produced cancer. Syphilis was not a factor in this case but it is one of the common causes of leucoplakia and cancer.

A man, sixty-five years of age, vigorous for his years, had advanced cancer of the gums. He had patches of alopecia over his scalp, evidence of syphilis; his teeth were broken and ragged and there was extensive pyorrhea. Moreover, he was an inveterate tobacco chewer.

These two cases exhibit some of the commonest forerunners of mouth cancer—excessive use of tobacco, pyorrhea, broken teeth, leucoplakia and syphilis.

Among other causes I have seen cancer caused by badly fitting dental plates; by trauma on the lip of a professional cornetist and in a scar in the buccal mucous membrane which was produced by a blow which broke a dental plate in the patient's mouth.

There is a prime cause for cancer which is not known. Many theories have been advanced but none is acceptable. This prime cause must be present before chronic irritation can produce malignancy. We believe, in the same way, that chronic irritation must exist before cancer will start.

Pain is absent in early cancer. If this were not so early diagnosis would be the rule. There being no subjective symptom to induce the patient to seek relief, delay is too common. Metastasis in cancer of the lip will take place in two or three months; of the tongue and jaw, in an even shorter time. Delay is costly. It results in death.

The first evidence of cancer of the lip, tongue, cheek and jaw is a small infiltrated or indurated and ulcerated area. It does not give pain but is recognized by sight and touch. It may be no more significant than a gum-boil or a fever-blister. If such a lesion does not disappear promptly with appropriate treatment, it is apt to be malignant. At this stage removal by cautery, surgery or radium will prevent cancer.

Patients with inoperable cancer will be greatly benefited by the use of radium and x-ray treatments. As a rule, pain will be relieved and life prolonged, while some apparently hopeless cases will be saved.

Our hope in cancer prevention and cure is based on our ability to recognize and remove the predisposing chronic irritations and precancerous lesions and our diagnosis of malignancy before lymphatic involvement and metastasis has taken place. Also we expect the prime cause will some day be discovered.

## DERMATOLOGY

JOSEPH A. ELLIOTT, M.D., Editor  
Charlotte

### EXTRAGENITAL CHANCRE

When the primary lesion of syphilis occurs on other parts of the body than the genitals it is rarely recognized by the physician. A lesion on the genitals usually arouses suspicion, but a lesion on the lip, finger or tongue rarely does. Syphilis is often the last rather than the first possibility suggested to the examiner. While this state of mind exists we can not hope for a proper appraisal of extragenital chancres.

That extragenital chancres are not rare is shown by the fact that Bulkley was able to collect 9,058 cases from the literature. Fournier observed 1,124 cases in his practice.

The lesions occur most frequently around the head and a vast majority of these occur on the lips. They occur frequently, however, on the chin, eye lids, tongue and tonsils. Next to the head the most frequent sites of occurrence are the hands and fingers. Chancres on the hands are rarely diagnosed until secondaries appear. The hands and fingers being constantly subjected to traumatism and various types of infection, the examiner usually considers lesions in this locality of little importance.

The finger chancre is of unusual interest because a majority of the reported cases have been in physicians. Fournier reports 49 such cases and 30 of these were in physicians. He states that most of these occurred in physicians doing either obstetrics, gynecology or otolaryngology.

During the past few years we have seen 21 extragenital chancres. These occurred as follows: lip 9, fingers 7, tongue 3, tonsil 1, abdomen 1. This type of lesion is interesting because the true condition is rarely suspected until secondaries occur. As a result of the low threshold of suspicion on the part of the examiner, the patient's chances of recovery from the disease are greatly reduced. Of

our 21 cases 16 showed positive blood wassermanns, while 5 were negative. The dark-field examination was positive in the latter five cases. This analysis of these few cases should serve to call to our attention the fact that extragenital chancres do frequently occur and, furthermore, that syphilis should be considered in arriving at a diagnosis of any lesion about the face or hands that does not respond readily to ordinary treatment.

While this group of cases as a whole illustrates the necessity of careful examination of all skin or mucous membrane lesions, an analysis of the finger chancre is even more impressive. All seven of the finger chancres occurred in physicians. Four of these had positive blood wassermanns while three were negative. Three of these cases had secondary lesions when first seen by us. One of the lesions had been incised four times, while another had been incised, later the finger nail removed and finally the bone scraped before the true condition was suspected. Perhaps it would not be amiss to call attention to the fact that the clinical appearance of the finger chancre is variable. It may simulate a mild paronychia in one case and in another there may be a granulating fungous lesion suggesting a sarcoma. When the lesion occurs on the tip of the finger there is often considerable pain. This point we wish to especially emphasize because of the fact that the usual chancre is not painful.

Due to the fact that extragenital chancres are common we would strongly urge that primary syphilis be considered in the differential diagnosis of all skin and mucous membrane lesions even where this possibility seems remote.

We would further urge all physicians who may have lesions on their own hands to have a dark-field examination made in every instance where the lesions persists for more than a few days.

## INTERNAL MEDICINE

For this issue, WILLIAM B. DEWAR, M.D., Raleigh

### OBSCURE FEVER

There is possibly no other condition in medicine that gives the internist, clinician, or general practitioner more concern, study or worry than a patient running an abnormal temperature, with no evident cause.

Fever has been defined by one authority as "a response in metabolism to invasion of microorganisms, and a toxic disturbance of the regulation of temperature." It is something more than a mere elevation of temperature which is called pyrexia.

Obscure fever, in this paper, refers to a case of pyrexia without adequate signs and symptoms, and of which after a careful and thorough diagnostic study, no definite diagnosis can be made.

This subject for convenience of classification may be divided into two main groups:

*First.*—The obscure fever which for some time can not be diagnosed, and then later as symptoms, physical signs, or laboratory procedures become positive, a definite diagnosis is made.

*Second.*—The obscure fever which may run on for weeks or months finally returning to normal, and with no positive diagnosis having ever been made.

Under the first group of obscure fever may be named subacute infectious endocarditis, the typhoid infections, chronic malaria, septicemia, tuberculosis, all of the focal infections, lymphadenoma, neoplasms (from their toxic effects), syphilis and thyroid dysfunction. Into a study of this group I shall not enter, for they are familiar to all of us.

In the second group, where the patient runs a continued long fever, with never any definite physical signs or positive findings, when all methods of precision have been exhausted, we have a difficult and troublesome class.

What physician knows that a patient with a continued low grade fever which he is unable to diagnose, may not have some serious illness, in its incipency, which early diagnosis and treatment may cure? On the other hand, an overlooking of the disease may cause, not only suffering to the patient, but embarrassment and loss of prestige to the physician.

It therefore behooves every physician having a patient with an obscure fever to make a continued and repeated search for its cause, calling into play every available aid possible.

As for my own cases, I have a positive plan to follow. A complete diagnostic study is made of each case, including a careful history, complete physical examination and all laboratory procedures indicated, such as complete



blood examination, thyroid rate, tuberculin test, x-ray and twenty-four hours urine examination. If no positive diagnosis can be made the patient is put to bed at absolute rest, and a record of temperature, pulse and respiration is kept for a definite period of time, usually about two weeks, and then the complete examination is repeated, as if the patient were calling on me for the first time. If a diagnosis cannot be made by this time, the patient is advised to consult some other medical man of his preference, or recommended by me—and to return to me with any positive findings that he may note. Honesty and frankness in these cases have never lost for me a patient, but have invariably increased the patient's confidence.

I wish to present the following cases of obscure fever in which no diagnosis has ever been made. None of these patients are very sick. I might also state that all of them have been seen by three or more physicians.

...Case 1.—Mrs. A. Patient was well until she had an appendectomy, with no drainage, following an acute attack of appendicitis. For over one year since her operation she has had a fever ranging from 98.6 to 101 degrees, with no definite regularity. She feels perfectly well, and other than being able to tell when she has fever, has no symptoms. Repeated studies of her by chest men, surgeons, nose and throat men, and internists have failed to find anything abnormal in physical examinations, and laboratory procedures, including urine, blood, x-ray, and thyroid examinations. Yet she continued to run a fever, when last seen by me.

Case 2.—Miss M., aged 27. Chief complaint "general malaise." History otherwise normal. First seen by me about seven months ago. A complete study of her, including all examinations and laboratory procedures, failed to reveal any disease. A tuberculin test was negative. She had a temperature ranging from normal to 99 4/5, with no regularity whatsoever, and sometimes going for forty-eight hours with a normal temperature, but again becoming abnormal. She feels worse when she has fever, and can tell when it is present before taking her temperature. At my request she consulted another internist, and he was unable to find anything definite. For the past seven months she has continued this fever and her general malaise goes on.

Case 3.—Mrs. B., aged 35. Patient seen by me with a chief complaint of fatigue and somnolence. I made a careful examination as in the previous cases and found only a low grade fever ranging from 98.6 to 99 3/5. Physical examination and laboratory findings including blood, urine, x-ray, thyroid, and tuberculin tests were normal. She was advised by a nose and throat man to have her tonsils removed as a source of the fever. This she did, with no relief. Again she was studied with no positive findings. Dr. McCain saw her and found no cause for her fever. She continues this irregular fever.

In all of these patients, the fever continues, and nothing positive has ever been found as an etiological factor. All of them continue along their routine methods of life. There are some authorities who believe in the so-called "nervous fever," and there are others who think that an irregular fever may be normal for some individuals. Is it possible that the cases above fall into these groups? I am of the opinion that an irregular fever must have some disease or infection as its cause, even when careful study fails to find it.

How shall we handle these cases of obscure fever? After we have studied their cases over and can find no cause, they must be reassured that there is no serious ailment. Observe them occasionally. Don't put them in bed at rest as this is not indicated. Allow them to go about their various walks of life as usual. Have them throw their thermometers away, and give them an opportunity to be well again.

---

## SURGERY

GEORGE H. BUNCH, M.D., *Editor*  
Columbia, S. C.

### SURGERY OF THE SPLEEN

Situated high up in the abdomen under the diaphragm and above the lower ribs the spleen is well protected against trauma. Formerly considered the largest of the ductless glands the spleen is now believed to be a part of the reticulo-endothelial system with a function of destroying worn-out red blood cells and platelets and of filtering invading organisms from the circulating blood. The spleen is a hemo-lymph gland containing involuntary muscle, elastic tissue, parenchyma



and large venous sinuses. The organ varies greatly in size from time to time and enlarges during digestion. It is estimated that when distended it is capable of holding 20 per cent of the total blood volume.

The spleen is enlarged in many of the acute infectious diseases. In malaria and in syphilis it may become chronically large. The prompt relief of the pain in ague-cake by quinine administration is a common clinical experience in this territory.

The spleen is of peculiar interest to surgeons for most of its therapy is surgical and consists practically of but a single operation—splenectomy. Splenic disease is apt to be accompanied by splenomegaly, and with enlargement there is apt to be anemia indicating a proportionate increase in the blood-destroying function of the organ. Experimentally in animals and after trauma in man, the removal of the spleen in no way affects the good health or the longevity of the individual. A very vascular organ with practically no pedicle normally, its attachment may be so stretched that the spleen may wander anywhere in the abdomen. It has even been removed from the right pelvis where it had become adherent to the right adnexa and had been diagnosed tumor of the ovary.

Interest in the spleen and its diseases is increasing. Herfarth has found 1,000 papers on it published between 1916 and 1926. At the 1927 meeting of the American Surgical Association there was a symposium on Surgery of the Spleen with a number of papers that are published in *Annals of Surgery* (September, 1928). Study and increasing experience prove a hitherto unsuspected relationship of the spleen to many diseases, whose most conspicuous symptoms may be manifested elsewhere. A striking example of this is hemorrhage from the stomach in Banti's disease which is advanced splenic anemia and which may be cured by splenectomy.

Diseases in which splenectomy has been done as the essential therapeutic procedure in treatment cover a surprisingly wide field and may be grouped according to W. J. Mayo into 4 classes.

Class 1 consists of diseases having abnormality of the white blood cells and includes spleno-myelogenous leucemia in which splenectomy may be done after the size of the spleen has been reduced by x-ray treatment.

Splenectomy prolongs life but does not cure the patient.

Class 2 is composed of diseases showing abnormality of the red blood cells and platelets. More splenectomies are done for these conditions than for all others combined. Splenic anemia heads the list and when treated early by splenectomy before cirrhosis of the liver is too far advanced results are excellent. The liver cell has great recuperative power and splenectomy in these cases is the only known procedure by which liver function can be restored and the patient live out his expectancy in fair health.

Gibbon (*Southern Medicine and Surgery*, September, 1928) divides jaundice into hemolytic, intra-hepatic or infectious and extra-hepatic or obstructive. Hemolytic jaundice is either congenital or acquired. It is familial jaundice. It is the only jaundice in which the urine and stools are unaltered. Removal of the enlarged spleen is curative of this condition.

In hemorrhagic purpura splenectomy is a life saving procedure.

In pernicious anemia splenectomy has been done with benefit to the patient, but, with blood transfusion, it has been placed in the discard by Minot's discovery of liver diet as a specific in the disease. His results, although published just 2 years ago in *The Journal of the American Medical Association* (August 14, 1926) has already revolutionized the treatment of the disease. In the current issue of the same journal (September 29, 1928) there is a symposium on the liver treatment of the disease that shows the discovery only second in importance to that of insulin. *The medical profession should remember, however, that in the secondary anemias liver diet has no such specific effect and is no better than any other parenchymatous food. Because of newspaper publicity the layman now eats liver for almost any indisposition so that the price of liver has advanced, a hardship on the pernicious anemia patients who really need it.*

Class 3 comprises the diseases of toxic or infectious origin. Splenectomy is indicated in cases of syphilitic splenomegaly that do not respond to luetic treatment. Removal of the spleen is curative in splenic tuberculosis. Splenectomy is seldom indicated in malarial enlargement.

Class 4 is of miscellaneous conditions such as Gaucher's disease, ruptured spleen, wandering spleen and unclassified types of splenomegaly.

Splenectomy is a major procedure. The danger from hemorrhage and shock is considerable. The operation should not be attempted by the novice.

## PERIODIC EXAMINATIONS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*

High Point, N. C.

### BE SURE YOU DO NO HARM

Recently a comic space in a well-known magazine portrayed a man going to the office of his physician in high spirits for a health examination. The skit was a "before and after" affair, and also pictured the victim's dejection after the examination—he had crumpled into a nervous wreck. The thing was brought to our attention by two different persons, one of them being the editor-in-chief of this journal, who appended the comment, "Here is the other side of the question." All this gave food for thought, and, incidentally, for this editorial. We had had the subject in mind for some time, however, for we are often asked if these examinations will not make neurasthenics, or, more correctly, cause anxiety neuroses.

Dr. Northington is right—it is the other side of the question—but from our standpoint, it is an insignificant side. Any good thing can be handled so clumsily as to destroy its value. This applies to periodic health examinations no less, and *no more* than it does to the practice of medicine in general. There are some doctors who almost invariably cast a gloom over their patients. They will do this in the course of a health examination just as surely as they will at the sick bed. Such men are out of place in the practice of medicine. Every real doctor is conscious of the fact that he deals, not merely with human *bodies*, but human *personalities*, and individualizes his methods accordingly.

There are, on the other hand, a number of patients who enjoy looking for trouble in themselves—they subconsciously hope that something may be wrong, for it will give them further material for "organ recitals," an excuse for a life of idleness, or an occasion for morbid self-pity. Such a person will derive

satisfaction from an attack of coryza, a case of tonsillitis, an appendectomy, or any other disability. All pathology is grist to his mill, and few doctors can do much to help him.

Granting these exceptional cases, our experience has taught us that *properly conducted health examinations cure more anxiety neuroses than they produce*. There is potent psychotherapy in the right kind of a careful thorough examination. Here is an illustrative case:

An ex-army officer had been retired because of a heart murmur. He had been told that the condition was not serious, but that hard campaigns would be inadvisable. Examination showed a soft systolic blow at the pulmonic area, not clearly transmitted in any direction. He had no evidence of cardiac enlargement, no cyanosis, arrhythmia, or edema. He could climb mountains without any more dyspnea or discomfort than his brethren with normal hearts. He had good cardiac reserve power, judged by his response to exercise. We told him to forget his heart—we saw no reason whatever for anxiety concerning it. This advice was given emphatically, with detailed explanation of the reasons therefor. Later in the course of the examination, a faint trace of sugar was found in his urine. He was somewhat overweight, and the significance of these two conditions was explained, and the fact emphasized that his trouble was at that time of mild degree, and could probably be readily controlled by moderate restrictions in diet. The importance of determining whether the glycosuria represented a true diabetes or not was stressed, and the real necessity of dietary treatment to prevent a progressive advance in diabetes explained. A few hours later a friend of his remarked, "I believe you put 10 years on ———'s life. He has worried himself sick about his heart, but you have relieved his mind, and he's like a boy just out of school."

Candidates for a health examination may be grouped into three main types—the apprehensive type, the balanced type, and the "rhinoceros hide" type—the man with the Spartan virtue (?) of holding his body in contempt. Diogenes was the classic example of this type—it is said that his death resulted from choking while attempting to eat a raw cow's hoof. We have seen in consultation practice a man who, almost immediately after

a profuse gastric hemorrhage due to cirrhosis of the liver, insisted on feasting on pickled pigs' feet!

The experienced physician will usually recognize the type of person confronting him in a health examination. He has a superb opportunity to allay the fears of the apprehensive. The rhinoceros-hide type rarely comes for a health examination, but when he does, there is a real opportunity to drive home some unpalatable truths, in many cases. An instance of this arose in the same town in which the above-mentioned army officer was examined. A very fat middle-aged man who ate excessively and was painfully proud of the fact, had a systolic blood pressure of 196. He knew that he was too fat, and that he ate too much, but he did not know of his hypertension. Sizing him up as of the rhinoceros-hide type, we proceeded to read him the riot act, and told him that no life insurance company would want to do business with him because of the danger of heart failure, apoplexy, etc. Then we pointed out that his excessive eating was a probable cause of his trouble, and that he had a fair chance to check the trouble if he would restrict his diet, especially the total quantity thereof, but that this was absolutely essential if he expected to reach an advanced age. The next day his doctor told us that he had been preaching moderation in diet to this man for 27 years without avail, but that he had just been to see him and found him eating a teaspoonful of cabbage and calling it dinner! This was going beyond our advice, but he had been scared enough to tell his wife, and she had taken charge of the situation!

Our revered teacher, Dr. M. Howard Fussell, who was Osler's family doctor when Osler lived in Philadelphia, used to say, "Always tell your patients the truth, so far as you possibly can. *Don't* tell a man with a compensating mitral lesion that he has heart disease and stop there, or you will probably give him the utterly *false* impression that he has a dynamite bomb inside of him that is liable to blow up at any moment. Take time to explain to him in detail that he has a good expectancy if he will live down to the level of his cardiac strength." Besides practicing this excellent precept, Dr. Fussell was second to no physician we have ever known in radiating cheer and intelligent optimism. He

had no time for Pollyanna stuff—the false optimism that says "‘Peace, peace’, when there is no peace”,—the doctor who takes this attitude had better quit practicing medicine and become a christian science healer—but Dr. Fussell did employ every justifiable means to build up his patients' morale in every way possible, with a tact, skill, and sympathy that could hardly be surpassed. Such should be the aim of every true physician in conducting a health examination, as well as in treating the sick. There will be small room for complaint that anxiety neuroses are created by such examinations.

## OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville, Va.

### MANAGEMENT OF OCCIPITO-POSTERIOR

In the study of the literature of the occipito-posterior presentation, I find that this is a right common condition in the field of obstetrics. There are many gloomy views recorded by various men. Williams says: "A comparatively large experience has led me to discount these gloomy views, and to regard the occurrence of posterior presentations with equanimity, provided the pelvis and child are normal in size." Also, he says: "In view of our uniformly good results, I do not consider it advisable to attempt to convert them into other positions during the course of labor, except when the forceps is to be applied." Many physicians dread this position and, because of their dread probably, do not give an open minded attention to it. A study of the pelvis and the head of the baby reveals that the mechanical part of the situation is certainly bad, because there is a marked interference, not only with the molding, but with the flexion and extension of the head and the resistance of the birth canal, to this faulty mechanical situation. Practically all observers note that the labor is decidedly prolonged, which of course means more wear and tear to the mother and greater danger to the baby; also more damage is caused to the birth canal. With these facts before us it seems that the way is open for suggestions of a constructive nature in the management of these cases.

After diagnosis has been made of occipito-posterior, if the pelvis has not been measured



it should be. The examination of the vagina should be done under strict surgical conditions. After the size of the pelvis has been accurately estimated, the amount of dilatation observed and the size of the baby approximated, one is in a position to scientifically plan for the immediate future of the case in hand.

The next step, if possible, if the patient is in the home and she can be persuaded to go to the hospital, is to get her there. After admission to the hospital there are two good ways out of the condition provided there is reasonable room in the birth canal and the baby is not unusually large. The first is to allow the patient to go on with labor until the cervix is completely dilated.

After there is complete dilatation, if occipito-posterior position persists, then the patient may be put to sleep and under strictly aseptic conditions, using preferably Potter's technique of delivery, have two nurses scrubbed up, have the patient draped and let one nurse take one leg and one the other of the patient, after the pelvic floor has been thoroughly ironed out. The physician should have on elbow gloves. He can now, with the pelvic floor thoroughly relaxed and ironed out and cervix completely dilated, go up into the uterus and very gently dissect the amniotic sac from the uterine wall up to the placenta. Now cross the baby's arms over the chest if they are not there; locate both feet and with them between the thumb, index and middle fingers, very carefully, slowly and gently bring them down. With the other hand on the abdomen of the mother the head may be pushed up. As this is done the version is completed with the feet of baby outside of the birth canal. In this position baby may be allowed to rest for a few minutes. With uterine contractions the baby will begin to rotate and as it rotates the buttocks may be delivered with pelvis antero-posterior to the mother's. Here again the baby may be allowed to rest a few minutes, and with uterine contractions and gentle traction on the feet of baby it rotates with its back to the abdomen of mother. Very slowly and gently the baby will be delivered in this position to the shoulders, and as we approach the shoulders the baby can be rotated either right or left by gently pressing on the pectoralis major and minor muscles. This will force the shoul-

der under the symphysis pubis and it will deliver spontaneously. After the shoulder has been delivered the arm can be brought up and out, thus completing delivery of the anterior shoulder. Now the posterior shoulder can be delivered as the anterior shoulder by rotating it anteriorly. This is done by gently using the hand already used to rotate baby. When this has been accomplished examination may be made to see if the cord is around the baby's neck. If it is about the neck of baby and is tight it can be caught with clamps and severed. If not, it can remain as it is, then with the left hand in the vagina gentle pressure can be made on the chin of baby. While this is being done the baby is astride the arm and is supported by the arm of the hand that is already in the vagina. With gentle pressure on the abdomen over the occiput of the baby, it can be brought through the superior strait. If there is difficulty at this point and the head cannot be brought through the superior strait, Piper forceps may be applied. As they are applied one of the nurses who is helping may have hold of the feet of the baby and very gently hold them up almost perpendicular with the body of the mother. The forceps having been applied, the body of baby may be allowed to rest on forceps, very gently, carefully and slowly the head may be brought through the superior strait without much danger to the head of the baby or the soft parts of mother. After the head has been brought through the superior strait, forceps may be taken off and very gentle pressure on the chin of baby in the vagina, with other hand under the shoulders of baby, it may be slowly and carefully delivered. As this is being done the mother's thighs should be at about a 15 degree angle lower than her body. As the baby's head is being brought into the external world the secretions may be expressed from the throat and mouth. Abundance of time should be taken here in delivering the head. As the head is about to be completely delivered the thighs of mother should be elevated to almost right angles to her body.

In managing these cases from this point of view, I believe if careful study is made one will find that the mother has had the best possible chance of getting through with this difficulty without extreme wear and tear, without much destruction to the birth canal,



and also the baby will not be exposed to a long continuous pressure caused by uterine contractions and will be less likely to have a brain injury. If, after the baby is born there is any evidence of asphyxia, then alpha-lobelin may be given, 1/20 grain in the muscle or in the umbilical vein. One will find that this drug acts very quickly and causes the baby to respond beautifully. By the use of this there will be no need for a lot of things we do in trying to make the baby breathe.

The other way out of the difficulty is, if the cervix is rather rigid and the dilatation slow, if the patient is in the hospital, I find that Voorhees bag No. 6 can be inserted into the cervix and saves a good deal of time, dilating the cervix uniformly without doing damage to it and by the use of it a reasonable amount of morphine may be used with glucose by rectum and thereby save the patient a lot of pain and exhaustion and sometimes the cervix being dilated in this manner the head will rotate either to the right or left anteriorly and the baby will follow the bag and be delivered spontaneously. In case the head does not rotate after the cervix has been dilated, the same technique may be used as already described.

Right here, if the cervix is brought down and observed carefully, one will find there has been a good deal of damage done in its posterior region. It will be found to be bruised and devitalized and usually torn either to the right or left. We will not here discuss what should be done with this cervix but will take it up later, for many of these cervixes should be studied more minutely and carefully to see what the ultimate results are and the morbid conditions produced by the failure of proper study and treatment of them at the time of delivery.

If the patient cannot be taken to a hospital, abundance of time should be allowed for the cervix to dilate and the head to come down in the mid strait, and as the head comes down, if progress is not made in a reasonable length of time and if there is any evidence of patient exhausting then the attending physician should call in someone to help him. After everything is ready for assisting in the delivery the patient should be put to sleep, complete relaxation should be obtained, then the physician should endeavor to rotate the head from the occipito-posterior to the occi-

pito-anterior position, when forceps may be applied and the baby slowly and gradually delivered.

In event it is not possible to rotate the head, it may be necessary to apply forceps in this position, with great risk to the posterior portion of the birth canal, probably to the extent of a second degree laceration. Great care should be taken to do as little damage as possible to the anterior birth canal, and before an attempt has been made to rotate the head the patient should have been thoroughly catheterized so the bladder is entirely empty. By very careful and slow work the majority of these cases will not have so much difficulty in delivery of baby in this position.

One of the most important things in this situation is for the attending physician to be calm, to keep his mind thoroughly working, be absolute master of the situation, thereby keeping the confidence of the persons involved and at the same time let everyone know the dangers ahead and above everything else keep a close eye on the mother and listen frequently to the fetal heart sounds.

If, in these occipito-posterior presentations, the attending physician is thoroughly aseptic in his technique and regards each case as having features of its own and will try each time to do a better job than before, the situation will be an easy one instead of a difficult one, his results will be very much better and he will win friends for life in a service second to none in importance.

---

## GYNECOLOGY

CHAS. R. ROBINS, M.D., *Editor*, Richmond

### ENDOMETRITIS

It happens not infrequently that doctors come in contact with clinical facts in the course of the day's work without understanding their significance. This is true of the condition referred to above. For many years surgeons had been encountering in the course of abdominal operations densely adherent ovarian cysts, which in the process of removal would rupture and discharge dark blood. The adhesions were thought to be inflammatory and the hemorrhage into the ovary a part of the inflammatory process.

These cysts were first described by Pick, who gave them the name of chocolate cysts

on account of the color of the contents. Cullen later made exhaustive studies of adenomyomata, found in the uterus, which he demonstrated to contain endometrial glands. But it was not until Sampson published his studies in 1921-2 that the true nature of these conditions was demonstrated beyond question. It was found that the menstrual blood containing endometrial cells and stroma would under certain conditions be discharged through the tubes into the peritoneal cavity. The cells were viable and had the property of continued life and growth on alien soil. Thus these cells entering into a recently ruptured graafian follicle would implant themselves, burrow into the ovarian stroma where they would make a cystic condition, lined with endometrial cells which would menstruate at each cycle as if they were attached in the cavity of the uterus. It was thus that the chocolate cyst was formed. As it increased in size the cells would become atrophied from pressure and eventually disappear.

One of the curious manifestations of this anomaly is implantation in laparotomy wounds, where operations were done that invade the cavity of the uterus. Goulliard, Martin and Michon report a case where three and a half years after an extensive myomectomy a woman thirty years of age developed a parietal fistula with menstrual oozing. Investigation of literature showed that in twenty of twenty-four cases there was a direct connection with the cavity of the uterus. M. Ballin (*S. G. & O.*, 1928, XLVI, 525) reports a menstrual fistula in the abdominal wall characterized by a periodic discharge of menstrual blood. These menstrual fistulas are painful and discharge more or less blood at the time of menstruation.

## NEUROLOGY

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston, S. C.

### WATCH FOR EARLY SIGNS OF NERVE INVOLVEMENT

Marked neurological changes are by no means confined to those disorders which we find listed in textbooks devoted exclusively to the nervous system. We can often find them if we only look, in diseases which the general practitioner is called on to see very

frequently. I have in mind pellagra, that dread malady which is all too common in the south and which apparently has increased in incidence in the last few years. The triad of symptoms which comes to our mind when this disease is mentioned is "diarrhea, dermatitis, and depression." But there are many other changes in the organism, and I wish to call attention to the frequently seen lesions affecting the spinal cord and its nerve tracts. The pathological nature of these changes are toxic and degenerative. Although they are by no means limited strictly to particular nerve tracts, yet so often are two fiber bundles involved that an almost typical picture may be described. These two tracts are the pyramidal tract, or upper motor neuron tract, and the posterior sensory columns, which convey the sensation of muscle sense and vibration sensibility.

Let us inquire into the signs and symptoms which arise when the two tracts in question are involved. If the pyramidal tract is diseased, there results loss of motor power and control in the parts affected and also increase in the irritability of the lower motor arcs. This brings about increased reflexes and in general the condition known as a spastic paralysis. On the other hand, involvement of the posterior columns causes loss of position sense, with resulting ataxia and incoordination. Likewise, since the posterior columns probably carry other axons conveying at least some of the skin sensations, various symptoms of numbness, tingling, itching and other paresthesias are present.

Only rarely would both tracts be equally involved. In such case the neurological picture presented would be exactly that described in the textbooks as "subacute combined sclerosis." It is interesting to note, in passing, that pernicious anemia is not infrequently accompanied by such a picture. Indeed, not a few cases, originally described as "subacute combined sclerosis," later begin to show blood changes and become typical cases of Addisonian anemia. The writer well remembers such a case in his practice a few years ago. But to return to pellagra, usually the involvement is more pronounced in one of the tracts at first. Or, one tract may be involved at one level of the cord, the other lower or higher. There is a tendency for the posterior columns to be diseased higher than

the motor tracts. Hence one may find a complete or partial spastic paralysis of the legs and an ataxia of the arms. Again the time changes are striking. Comparatively early in the disease the reflexes may be increased, later becoming lost, sensory symptoms dominating the picture.

Most of the cases of pellagra as seen by the writer are among the negroes in the wards of a large city hospital. These are, in the main, advanced cases. Hence it may be objected that the conditions pictured above are extreme. This is undoubtedly true, but the point might be made that it took some time for the condition to advance to such a degree, and that months earlier, one could have seen the same symptoms in a much more incipient form. I would venture to say that, if we study our pellagrins carefully as to the integrity of the nervous system, we would be surprised as to the number of signs and symptoms we would pick up which would point to an early involvement of the spinal cord. So commonly are they found that they constitute a diagnostic aid of no small importance. Watch out, when you suspect pellagra, for increased or unequal reflex jerks, a slight tendency to ataxia, and sensory changes in the extremities.

---

### PUBLIC HEALTH

LOUIS L. WILLIAMS, M.D., Surgeon U. S. P. H. S.  
Richmond

#### FOR PREVENTION AND EARLY CORRECTION

School has commenced. City and county health officers and school physicians are making annual physical examinations of the children. The physical imperfections of each child will be listed on a card, a copy of which will be sent to the parents. This card will advise that the family physician be consulted, looking toward correction of the troubles found.

What will the family physician say at this consultation? What will his attitude be? Will the busy man dismiss with a shrug the enlarged tonsils that are giving no present symptoms? Chronic enlargement of the tonsils predisposes to heart disease. Which is more important; to spend an hour prescribing for myocardial insufficiency in a 50 year old patient, or giving fifteen minutes of good advice that may prevent a similar case?

There will be numerous cases of dental

caries. Uncorrected they lead to poor digestion and focal infection; these should be sent to the dentist even if the child be under 8 years of age, and the trouble be in the milk teeth. How about the youngsters who are over 10% underweight? Will they all outgrow it unadvised, or will their diet receive careful study, and measures of correction be advised? Will the slight defects of vision be arrested by proper glasses and right lighting, or will they be allowed to progress? Will the deaf child receive thorough examination of the sinuses, as well as of the ears and nose? Will an audiogram be made in order to check the degree of deafness from time to time, in order to advise special instruction if it be a rapidly progressive affair? Lip-reading is easier to learn before deafness becomes complete.

When children are brought to us with minor defects, remember the ghastly statistics of the draft boards. Over half of our young manhood were physically unfit for active warfare; one-third were unfit for any type of military duty. Almost 95% of these defects were due to physical troubles of childhood which *could have been corrected*.

Of course, we hope that wars are over, and do not expect to raise a new generation only for battle. Our future citizens, however, will do much better physically fit than with one-half of them handicapped by defects that we could have prevented.

---

#### MAY THERE BE NO SHEARING OF THIS SAMPSON

Lee W. Fox, white man, and Willie Locklear, Indian, are held in the Sampson county jail in default of bond on the charge of practicing medicine without license.

Both were arrested by county officers and later given a hearing before Squire George L. Peterson, who bound them over to superior court.

The so-called Indian doctor, who hails from Robeson county, also is under separate indictment on the charge of driving a car while drunk. He also was bound over to the higher court on this charge under a separate bond of \$500. Sampson officers are making it warm for itinerant medicine men, who claim to have a remedy for what ails you regardless of the ailment.—Charlotte Observer, October 5th.



## Miscellany

### PROPOSED POSTGRADUATE MEDICAL COURSE

#### DIAGNOSIS OF DISEASES OF THE CHEST

R. M. GRUMMAN, Chapel Hill  
Director Extension Division  
University of North Carolina

##### *A Challenging Situation*

The diagnosis of incipient tuberculosis is evidently very difficult for the general practitioner. Dr. McCain of the State Sanatorium for Tuberculosis states that of 1,002 admissions to the sanatorium there were 426 advanced cases, 306 moderately advanced cases, 163 incipient cases, and 107 cases without tuberculosis. He also states that a large majority of the incipient cases were sent in by members of his staff or came in of their own initiative following a definite exposure. Obviously, the incipient cases are not being recognized and until they are the profession is not meeting fully its obligation. This is a serious indictment. The remedy is obvious; the physicians must become more efficient, more thorough in their examination of the chest.

##### *Endorsement*

At a conference called by the North Carolina Tuberculosis Association, representatives of this organization and of the University of North Carolina discussed the above situation. The plan outlined below was devised as being the most practical way to provide instruction. This plan was presented to the Council of the Medical Society of the State of North Carolina for consideration and was approved. Each district councilor pledged his support and agreed to determine the interest in the

course in his district. The plan likewise has the endorsement of the North Carolina State Board of Health.

##### *Plan of Instruction*

The Medical School and the Extension Division of the University will arrange and administer a course in the diagnosis of diseases of the chest (heart and lungs). The best man available in the field in this country will be secured as the instructor for a period of about one year, so that the course, consisting of six lectures and clinics, may be offered in every section of the state. Each class will meet daily for one week, from Monday to Saturday, inclusive. The instructor may be called upon for consultation during the week by members of the class.

The entire cost of the course, or for one week of the instructor's services, is two hundred dollars. Instead of charging an individual fee, each group or class will be expected to assume the responsibility for the financial arrangements.

The State Sanatorium will cooperate by offering without charge a two weeks' course at the sanatorium. This may be taken separately or combined with the extension course.

A certificate of attendance will be awarded by the University to those attending the majority of the instructional meetings in a center. A special certificate of proficiency will be given to those who complete the requirements of both the extension course and the course at the sanatorium.

Definite assurance of support is necessary before further arrangements can be made. Please inform your District Councilor at once if you are interested in attending such a course in your community.



## NEWS

### REPORT OF THE MEETING OF THE NINTH DISTRICT MEDICAL SOCIETY

Statesville, N. C., Thursday, September 27,  
1928

Meeting called to order by Dr. M. R. Adams, Statesville, Councilor of the Ninth District. Invocation by Rev. C. E. Raynal, Statesville. Addresses of welcome—Hon. D. L. Raymer for Iredell County and Mr. J. B. Roach for the City of Statesville. Response by Dr. Glenn Frye of Hickory.

Dr. C. Banks McNairy was then called to the chair. Regular business session. Dr. C. M. VanPoole of Salisbury, on behalf of the Rowan County Medical Society, invited us to Salisbury. Dr. Glenn Frye of Hickory, on behalf of the Catawba County Medical Society, invited us to Hickory. The society selected Hickory as the meeting place for next year.

Officers elected for 1929:

President, Dr. Roy Tatum, Statesville;

Vice-President, Dr. Glenn Frye, Hickory;

Secretary-Treasurer, Dr. James W. Davis, Statesville.

At the suggestion of a number of members it has been requested that Dr. C. Banks McNairy be selected as permanent toastmaster to preside at the annual dinners.

The following resolution was brought before the society and adopted without a dissenting vote:

*Resolved*, That it is the wish of this society that those in charge of the programs shall arrange for a limited discussion of papers read before the society.

The following resolution was brought before the society by Dr. Roy Tatum of Statesville and adopted without a dissenting vote:

*Whereas*, The Ninth District Medical Society has grown continuously for the past ten years and has now become second only in size to the State Society, and *whereas*, on account of the expected large attendance at the future meetings it might become a burden for some county societies to furnish free entertainment for such large meetings. Be it now resolved that beginning with the 1929 meeting every member in the Ninth District

Society in attendance be required to pay for his plate at the banquet. The amount to be fixed each year by the local entertainment committee.

The Ninth District Medical Society has, therefore, gone on record as preferring a limited number of papers and a free discussion rather than a large number of papers and no discussions.

The papers read were of a very high order and very instructive. Owing to the limited time two papers were not read and we have arranged to have these two papers at the next meeting, as they are both interesting and very important: "The Home Treatment of Tubercular Children," by Dr. C. W. Armstrong of Salisbury, N. C., and "Breast Feeding," by Dr. Frank Howard Richardson of Brooklyn, N. Y., and Black Mountain, N. C. In addition Dr. Northington of Charlotte will make a talk on the work of the Official Journal of: (1) The Ninth District Medical Society, (2) The Tri-State Medical Association, and (3) The Medical Society of the State of North Carolina.

The dinner session was one of the most enjoyable affairs in the history of the society. With Dr. McNairy as toastmaster we are always assured a happy time.

When the society convened we were delightfully entertained by a solo by Miss Margaret Sloan, of Statesville, music by Don Richardson's Orchestra, of Charlotte, and songs by the Piedmont Four Quartette consisting of Mr. J. M. Ketchie, Statesville, and Messrs. George Hawkes, A. E. Cashion and Houston Kelly, Cornelius.

Sparkling after-dinner talks completed the making of this meeting one that will be remembered for many years to come by all those who were present. These social sessions are something which no doctor can afford to miss. Life is too short to allow a meeting like this to go unattended if it is possible to get there. It is true that a doctor cannot always tell when he can attend a meeting and it is more difficult for a doctor to leave his work for a day than for anyone else. We are sure, however, that every one who attends these meetings will feel amply compensated.

The address made by Dr. Cyrus

Thompson of Jacksonville, N. C., and the paper by Dr. James K. Hall of Richmond, Virginia, were two of the outstanding features of the dinner session.

The society was honored in having Mr. R. R. Clark, of Statesville, present at dinner. Mr. Clark made a talk on the State Hospital at Morganton, and stressed the importance of every doctor who recommends an applicant for admission to the State Hospital looking carefully into the case so that the institution will not be crowded with patients who do not belong there, thereby excluding and preventing the admission of patients who are in need of treatment and for whom something can be done. Mr. Clark's long and unselfish service as director of the State Hospital at Morganton, and his appeal to the profession to look into this most important matter, and to co-operate in every way with the management of the State Hospital deserves the careful consideration of every doctor in North Carolina.

Talks were also made by Dr. Charles O'H. Laughinghouse, Raleigh; Dr. W. C. Davison, Dean the Medical School of Duke University; Dr. Thurman D. Kitchin, President North Carolina Medical Society, Wake Forest; Dr. L. G. Beall of Black Mountain, talking on "Matrimony," received loud applause. Short talks were made by the Rev. T. L. Trott, our chaplain, and others, all of which were delightful and highly entertaining.

Five members of the North Carolina Board of Health were present, including President A. J. Crowell and Dr. Charles O'H. Laughinghouse, of Raleigh; Dr. Cyrus Thompson, of Jacksonville; Dr. D. A. Stanton, of High Point, and Dr. T. E. Anderson, of Statesville. All these and Dr. Jas. K. Hall, of Richmond, and Dr. Jas. M. Northington, of Charlotte, were charmingly entertained at dinner by Dr. and Mrs. Thos. E. Anderson.

Looking toward the future, the Ninth District Medical Society is hoping that each year will show an increase in interest and attendance. The society plans, therefore, to present each year a program which is practical and useful and which will be worth a day of any doctor's time.

Dr. Louis H. Clerf and Dr. Douglas Murphy, of Philadelphia, and Major James M. Troutt, of the M. C., U. S. A., Chief of Sur-

gical Service of Tripler General Hospital, Honolulu, read papers at this meeting. These men came at the invitation of the society and at their own expense. The highly instructive talks made by these men were alone well worth the attendance at this meeting.

The Ninth District Society is endeavoring to carry out the plans and purposes of the State Medical Society in stimulating interest in scientific medicine. It is to be hoped that those who attend our meetings will be encouraged to attend the annual meeting of the State Medical Society, and support the State Medical Society, and encourage our State Board of Health which is doing so much to reduce the morbidity and mortality.

At the next annual meeting, we will probably have six papers with a discussion of each. This will necessitate a careful selection of subjects so there will be no overlapping of subjects or discussions and in order that those who attend may get the most good from the meeting.

We are looking forward to meeting in Hickory next year. The hospitality of the Catawba county people is not excelled by that of any county in the state, and in addition we may be assured of a hearty welcome from the Catawba County Medical Society, the City of Hickory and Catawba county generally.

Let every member begin now to prepare for this meeting.

*James W. Davis, Secretary.*

THE SEVENTH DISTRICT MEDICAL SOCIETY met at Lincolnton October 8th, the business session being held in the afternoon in the court house and the banquet at night in the dining room of the North State hotel. The registration was 128.

Following the afternoon session officers for the ensuing term were named as follows:

Dr. J. R. Gamble, Lincolnton, president; Dr. John Hill Tucker, Charlotte, vice-president; Rr. Raymond Thompson, Charlotte, secretary (re-elected).

The next meeting will be held in Charlotte in October, 1929. The business session was called to order by Dr. T. C. Bost, of Charlotte, counselor of the society. The address of welcome to the visiting doctors was made by Dr. W. G. Bandy, president of the Lincoln County Medical Society. Dr. R. H.

Crawford, Rutherfordton, president of the district society, presided at the business session, and papers read included: "Caesarean Section," Dr. L. A. Crowell, Lincolnton; "Factors of Safety in Spinal Anesthesia," Dr. Roy B. McKnight, Charlotte; "Dissociated Jaundice," Dr. W. H. Scruggs, Gastonia; "Thyrototoxicosis as a Complication of Pregnancy," Dr. Thomas B. Mitchell, Charlotte; "Discussion of Some of the Acute Infections of the Brain," Dr. A. A. Barron, Charlotte; "Your Medical Life," Dr. H. D. Stewart, Monroe; "Carcinoma of Large Intestine," Dr. James W. Gibbon, Charlotte; "Cancer and Radiation," Drs. Robert H. Lafferty and C. C. Phillips, Charlotte; "Upper Respiratory Infections with Predominating Gastro-Intestinal Symptoms," Dr. John R. Ashe, Charlotte; "Breast Feeding," (motion picture), Dr. Frank Howard Richardson, Black Mountain.

At the banquet Dr. L. A. Crowell, surgeon of Lincoln Hospital, acted as toastmaster.

The address of welcome in behalf of the town of Lincolnton was made by Senator W. H. Childs, of Lincolnton, and the response was made by Dr. John Hill Tucker, of Charlotte. Other addresses of the evening were made by Dr. Thurman D. Kitchin, Wake Forest, president of the State Medical Society, and by Dr. Wilburt C. Davison, of the Duke Medical School. Physicians from Lenoir and Statesville were in attendance at the meeting and banquet.

THE ROBESON COUNTY MEDICAL SOCIETY held a regular meeting at the Lorraine Hotel, Lumberton, October 4th. Dr. A. B. Holmes, Fairmont, discussed "Medical Ethics" and Dr. T. C. Johnson, Lumberton, "What the Doctors of North Carolina Do for Their Patients, and What the Doctors Are Up Against."

THE BOARD OF DIRECTORS of the North Carolina Sanatorium at their regular quarterly meeting at the institution October 3rd, approved the institution's permanent improvement program for the next biennium, inspected the new sanatorium building, and accepted the annual report of the institution for the fiscal year ending June 30, 1928. Members of the board of directors of the institution present were: Dr. T. W. M. Long, chairman, Roanoke Rapids; W. E. Harrison, secretary,

Rockingham; J. R. McQueen, Lakeview; Jonas Oettinger, Wilson; A. B. Croom, Wilmington; Dr. J. C. Braswell, Whitakers; Mrs. Max T. Payne, Greensboro. Absent members were U. L. Spencer, vice-chairman, Carthage, and J. R. Jones, Sanford.

THE GUILFORD COUNTY MEDICAL SOCIETY held a meeting of special importance on the evening of October 4th. Features were addresses by Dr. W. C. Davison, of Duke, and Dr. A. J. Crowell, of Charlotte. Dr. S. F. Ravel contributed to the meeting. The speakers were introduced by the president of the society, Dr. D. W. Holt.

DR. WILLIAM BOYD BRIGMAN, Medical College of Virginia, 1916, died of pneumonia at the U. S. Veteran's Hospital, Lake City, Fla., September 20th. Dr. Brigman was a native of Marlboro county, S. C., and had practiced at Bishopville, S. C., and Milledgeville, Ga.

... DR. H. Q. ALEXANDER, of Matthews, N. C., has been nominated for the vice-presidency of the United States by the Farmer-Labor party. Notwithstanding this compliment it is understood that Dr. Alexander will vote for the nominees of the Democratic party.

DR. J. R. ALEXANDER, of Charlotte, has been in attendance on the annual meeting of the American College of Physical Therapy at Chicago, for the past week.

THE DAVIS HOSPITAL, Statesville, has enlarged its Eye, Ear, Nose and Throat Department.

DR. R. R. GOAD, a native of Virginia, formerly on the eye service of the Hospital of the University of Iowa for several years, is now in charge of the eye department. Dr. Glenn Tygett is at the head of the ear, nose and throat department.

DR. WALTER TALMAGE LONG, 46, Baltimore Medical College, 1905, died at his home at Roxboro, October 3rd.

DR. WILLIAM HENRY POWELL, JR., Fayetteville, and MISS HARRIET STANTON, Wilmington, were married at Richmond, Va., October 3rd.



## REVIEW OF RECENT BOOKS

RECENT ADVANCES IN SURGERY, by W. Heneage Ogilvie, M.A., M.D., M.Ch., Oxon., F.R.C., Eng., Assistant Surgeon, Guy's Hospital and Lecturer in Clinical Surgery to Guy's Hospital Medical School; Surgeon to Out-patients, Hampstead General and North-West London Hospital; Surgeon to St. Vincent's Orthopaedic Hospital, Woburn Hospital and Northwood War Memorial Hospital. 108 illustrations. P. Blakiston's Sons & Co., Philadelphia. 1928.

The author approaches his task with a full realization of the difficulties in the way of deciding with certainty that any given change or addition is an *advance*. This assures a conservative work which will little tend to mislead.

It is noted that a reaction has set in against indiscriminate transfusion because of the questionable benefit, in many instances, and the certain danger. The progress of local anesthesia, at the expense of spinal, is traced, and detailed technic given. Attention is called to the importance of "the third circulation." The technic and uses of ventriculography along with the use of lipiodol, are given space.

Laminectomy has a definite and limited field of usefulness; little value is attached to surgery for angina pectoris. There are differences of opinion as to proper time at which to operate for cleft palate and hare lip. "The surgical treatment of Grave's disease has advanced very little in the last ten years."

Chest surgery has made advances, and more attention is being paid to varying incisions in the abdominal wall to suit the physiology of the structures involved. New operations for herniae are described. Kraske's operation (for rectal carcinoma) has been abandoned. Rejuvenation surgery is viewed askance.

CLINICAL MEDICINE, by Oscar W. Bethea, M.D., Ph.G., Professor of Therapeutics, Tulane Graduate School of Medicine; Professor of Clinical Therapeutics, Tulane School of Medicine, New Orleans, La. Octave volume of 700 pages. Philadelphia and London. W. B. Saunders Company, 1928. Cloth, \$7.50 Net,

Over many years the author has been impressed with the thought that a book on medicine should be written especially suited to the needs and problems of the doctor who has to treat patients in their homes and with limited facilities. "It has been with this larger group constantly in mind that this book has been written."

It is a work on *clinical—bed-side—medicine*, replete with definite instruction for finding out what is wrong with folks in ordinary circumstances who are sick, and then for doing something for them.

Doctor Bethea treats patients, and he well knows that many can not afford expensive measures in treatment, and that, in many instances, the depressing influences of either debt or charity, would far more than counterbalance any possible good to be derived from hospital treatment, trained nursing, etc.

A clear course is steered between therapeutic nihilism on the one hand and unreasoning faith on the other.

The book is a valuably handy volume for daily use in a busy practice.

A PRACTICAL MEDICAL DICTIONARY, of words used in medicine with their derivation and pronunciation, including dental, veterinary, chemical, botanical, electrical, life insurance and other special terms; anatomical tables of the titles in general use and those sanctioned by the Basle Anatomical Convention; pharmaceutical preparations, official in the U. S. and British Pharmacopoeias and contained in the national formulary and comprehensive lists of synonyms, by Thomas Lathrop Steadman, A.M., M.D., editor of the "Twentieth Century Practice of Medicine" and of the "Reference Handbook of the Medical Sciences," formerly editor of the Medical Record." Tenth revised edition. Illustrated. William Wood & Co., New York, 1928. \$7.50.

Generally a dictionary does not lend itself readily to review. We have said about previous editions of Steadman's, and can now say of this edition, it is a continual delight. The use of Roman characters to explain derivations from the Greek is wisely continued, as thus serving some who would find the Greek



characters unintelligible.

Nearly 500 new medical terms have been added and a good many obsolete and "one-man" terms dropped. This edition follows in the footsteps of the other nine in working always for *clarity*, accuracy and sound construction.

The reviewer (and editor) will use his copy daily. He would be made happy could he know that every contributor to this journal had a copy in his hands frequently.

---

**NUTRITION AND DIET IN HEALTH AND DISEASE**, by James S. McLester, M.D., Professor of Medicine, Graduate School of Medicine, University of Alabama, Birmingham, Ala. Octavo of 783 pages. Philadelphia and London, W. B. Saunders Company, 1927. Cloth, \$8.00 Net.

Dietary regulations are planned as influenced by two chief factors, the individual's nutritive needs and combined experience. The author thinks the latter has been given undue weight.

The body of the book begins with a not too lengthy discussion of metabolism; then follow chapters on digestion and absorption, fundamental nutritional factors—major and minor; after which are discussed the more important foods and food groups.

Dr. McKim Marriott, of St. Louis, contributes the chapter on the feeding of infants, and Dr. Barney Brooks, of Nashville, the chapter on diets for surgical patients.

Part II is devoted to nutrition in disease. Chapters on deficiency diseases, diabetes, gout, obesity and leanness, nephritis, follow in order. Feeding in its relationship to digestive diseases, febrile diseases, diseases of the heart and arteries, of the blood, joints and nervous systems, have detailed treatment.

The whole work is painstaking and explicit. Its attitude toward coffee, tea and condiments, seems as unnecessarily restrictive, as that toward "radio-active waters" appears over-kind; but we find ourselves in entire agreement with "There are times in the treatment of disease when alcoholic beverages are unquestionably of help."

There is a wealth of plans for meals to meet varying indications, which have been worked out with great care not only as to caloric content, but with a due regard to appeal to eye, nose and palate.

**SURGICAL DIAGNOSIS IN TABULAR OUTLINE FOR STUDENTS AND PHYSICIANS**, by Dr. A. J. Cemach, Vienna, Austria. Authorized translations, with additions and notes by Edward L. Bortz, M.D., Associate in Medicine, The Lankenau Hospital, Philadelphia, Assistant Instructor in Pathology, Medical School, University of Pennsylvania, with an introductory note by John B. Deaver, M.D. With 109 tabular forms and 129 plates, with 548 subjects, many in colors. F. A. Davis Company, Philadelphia, 1928. \$12.00.

This is the first appearance in English of a work which is in its fourth German Edition. It is intended as a disk reference book rather than a text, and it should admirably serve this purpose. "It covers the entire field of established surgical endeavor," presenting differential points for diagnosis in a remarkably concise form.

The many illustrations are well chosen and serve their purpose.

As an example Table 18 may be cited. It concerns diseases of the mouth; stomatitis—ulcerous, gangrenous; phlegmonous glossitis—abscess, cellulitis; syphilis—primary, secondary tertiary; tuberculosis; leukoplakia; tumors—hemangioma, lymphangioma, lipoma, fibroma, adenoma, sarcoma, ranula, mucous cyst, dermoid, carcinoma; and in tabular form, gives pertinent differential information from *history* through *diagnosis*. Moreover, the two pages immediately preceding the table contain eight fine figures for further elucidation. Table 46 on acute abdominal conditions will probably be consulted as often as any in the work, and it will show the way to right diagnosis and treatment for many a puzzled doctor. Often it is that the very suggestion of the possibility of the existence of a certain condition is sufficient to lead to its detection; along this line the work will be found invaluable.

---

**PRACTICAL SURGERY OF THE ABDOMEN**, by George H. Juilly, M.D., Chief Surgeon to the French Hospital, San Francisco, with a foreword by W. Wayne Babcock, M.D. In two volumes, with 1291 illustrations, some in colors. F. A. Davis Co., Philadelphia, 1928. \$16.00.

The author is an experienced surgeon who has not forgotten that he is also a doctor. His aims, as he declares them, are to refresh the memory as to anatomical details, emphasize the importance of making a diagnosis before operating, and to make plain the best

operation for any given surgical condition.

He thinks little of the surgeon who claims to "know nothing of medicine," and he distinguishes between the *surgeon* and the *clever operator*.

Use is made of illustrative cases to teach what should be suspected under certain circumstances. The type is large and plain. Preference is given to drawings which show clearly important features, over photographs which can not so well serve this end. Two excellent indexes—one of illustrations and one general—facilitate reference, and an extended bibliography makes it easy for a reader to go further on any subject which especially interests him.

It is pleasing and encouraging to encounter a work on surgery which insists on the great desirability and feasibility of exact diagnosis, in the great majority of cases, and which takes well into account the fact that every precaution should be exercised that no patient be subjected unnecessarily to an operation's dangers or expense.

---

**DISEASES OF THE EAR, NOSE AND THROAT, MEDICAL AND SURGICAL**, by Wendell Christopher Phillips, M.D., Ex-President American Medical Association; Formerly Professor of Otology, New York Post-Graduate Medical School and Hospital; Surgeon to the Manhattan Eye, Ear and Throat Hospital; Fellow and Ex-President of the American Laryngological, Rhinological, and Otological Society. Seventh revised and enlarged edition, illustrated with 615 half-tone and other text engravings, many of them original; including 37 full plates, some in colors. F. A. Davis Co., Philadelphia, 1928. \$9.00.

This edition of Dr. Phillips' authoritative work follows the former plan of bearing in mind the concern of family doctor and general surgeon with oto-laryngology. Obsolete methods are not carried for the purpose of making the dealing "complete." Like most of the medical writings of Europeans, but of relatively few of Americans, it is largely a record of personal experience.

There is a section devoted to the influence of general diseases and conditions—numbering 37—on the ear, nose and throat.

From Chapter 1, on The Office Equipment, to Chapter 54, on Esophagoscopy, the work represents the latest, the most useful, and the most trust-worthy in its field.

**INTERNATIONAL CLINICS: A Quarterly**, by Henry W. Cattell, A.M., M.D., Volume 3. Thirty-eighth series. Philadelphia and London, J. B. Lippincott Co., 1928.

Dr. Chas. Sajous elaborately discusses Rational Endocrinology and Organotherapy, and he emphasizes the adjective. His treatment of the subject is interesting throughout, and some of his conclusions are startling.

Dr. Raymond Pearl's two Harrington Lectures—I, Alcohol and Life Duration, and II, Cancer from the Viewpoint of the Human Biologist, will be read with close attention.

Sir Humphrey Rolleston's, on The Clinical Significance of Abnormal Blood-pressures, clears up a good deal that was obscure and gives valuable instructions for diagnosis and management.

Other articles of more than ordinary interest concern themselves with: Medical Treatment of Liver and Biliary-duct Disease, Vitamines, Possibilities in Preventive Medicine, and Impulsive Outbreaks in Children.

---

**DISEASES OF INFANTS AND CHILDREN**, by Henry Dight Chapin, A.M., M.D., Emeritus Professor of Medicine (Diseases of Children) at the New York Post-Graduate School and Hospital; Medical Director of the Speedwell Society; Consulting Physician to the New York Post-Graduate Hospital; to the Randalls Island Hospital; to the Convalescent Home for Children, Sea Cliff, and to the Hackensack Hospital; Ex-President of the American Pediatric Society, and

Lawrence Thomas Royster, M.D., Professor of Pediatrics and Head of the Pediatric Department of the University of Virginia. Sixth revised edition. William Wood & Co., New York, 1928. \$7.50.

The book starts in at the beginning—just as soon as the infant is delivered—with instructions on bathing, clothing, habit formation, arrangement of nursery and exercise. A chapter each deals attentively with injuries during birth, and diseases and abnormalities of the newly-born.

There is a whole section on growth. A chapter devoted to general therapeutics lists 32 "drugs or preparations of drugs most frequently used internally with the greatest advantage in pediatric practice." It is of interest to note that not one of these has been introduced to the profession in the past 20 years. Heliotherapy and hydrotherapy are extolled. Indications for, and technic of, various special therapeutic procedures are

given.

A scheme of orderly procedure for making a diagnosis is carefully outlined. Detailed instructions are given for assuring adequate breast feeding.

The discussions of the exanthemata are particularly clear and elaborately illustrated by beautifully colored plates. Diseases of the

uropoietic system are given special care. A section is devoted to the commoner surgical diseases, and the common occurrence of otitis cited, with and without symptoms.

As an illustration of its exhaustiveness the final chapter is devoted to the care of dependent infants and children.

#### TWO GEMS FROM MORDECAI'S MISCELLANIES

Note—S. F. Mordecai was for many years Dean of the Law School of Trinity College, now Duke University.

Dear Doctor and Mrs. F.: I send you a Christmas gift. Part of it is some of the original paulo post deluge fluid with which my ancestor Noah celebrated the subsiding of the waters. I know neither of you would consume such fluid, but you can keep it among your Biblical bric-a-brac. In fact, some day you may come to the conclusion that Paul and Timothy and Noah were not so far wrong, at last—even though they were denied the teachings of the wiser folks of the present. Poor benighted Paul! My heart bleeds for him.—S. F. M.

(Written to a lady on the birth of one of her children)

Once upon a morning cheery, while I pondered blithe and merry

O'er the many cranks that cried nonsense 'bout race suicide,

Suddenly I heard a bawling, loud and strong like brats a-squalling.

I saw likewise a mighty shade of legs and beak 'twas mostly made.

Of safety-pins I heard the snapping, and of wings I heard the flapping.

I also heard a baby squawk, and then I knew it was the stork.

"Tell me," said I, "bird of fiction—of peace and rest thou malediction!

Does this exhaust your bratall store?" "No! quoth he, "there's forty more!"

Then I ripped and 'rared and swore—and so I shall do evermore!

—S. F. M.

DR. ROBERT T. FERGUSON and DR. EDWARD R. HIPPE are among Charlotte's representatives at the meeting of the American College of Surgeons at Boston.

DR. WILLIAM CHIVOUS BOSTIC, JR., of Forest City, and MISS ELIZABETH VAN CLEVE STEVENS, of Carlton, Georgia, will be married October 20th.

DR. EDGAR COOPER PERSON, of Pikeville, his wife and twelve-year-old daughter were seriously injured in an automobile wreck October 5th.

DR. GEORGE MERRIWETHER, University of Pennsylvania, 1870, died at his home at Buena Vista, Va., October 8th. Since 1918 he had been retired from practice because of a paralytic stroke.

Charlotte man turns on the gas because a girl jilted him—thus confirming the lady's judgment.

"Cannon Says Raskob Cannot Muzzle Him." That's a job we doubt whether even Mr. Raskob would undertake.—Greensboro News.

21 daily shots through a big needle are not to be risked lightly.

## *The Tulane University of Louisiana* **GRADUATE SCHOOL OF MEDICINE**

Approved by the Council on Medical Education of the A. M. A.

Post-graduate instruction offered in all branches of medicine. Courses leading to a higher degree have also been instituted.

A bulletin furnishing detailed information may be obtained upon application to the

DEAN

*Graduate School of Medicine*

1551 Canal Street, NEW ORLEANS, LA.

## OFFICERS

**Medical Society of the State of  
North Carolina  
1928-1929**

*President*

Dr. Thurman D. Kitchin.....Wake Forest

*First Vice-President*

\*Dr. W. L. Dunn.....Asheville

*Second Vice-President*

Dr. D. T. Tayloe, jr.....Washington

*Third Vice-President*

Dr. W. D. James.....Hamlet

*Secretary-Treasurer*

Dr. L. B. McBrayer.....Southern Pines

## OFFICERS

**Tri-State Medical Association of  
the Carolinas and Virginia  
1928-1929**

*President*—Dr. J. K. Hall.....Richmond, Va.*Vice-Presidents:*

Dr. Oren Moore.....Charlotte, N. C.

Dr. R. Finley Gayle, jr.....Richmond, Va.

Dr. DeWitt Kluttz.....Greenville, S. C.

*Secretary-Treasurer:*

Dr. J. M. Northington.....Charlotte, N. C.

## COUNCILORS

*First District*

Dr. H. D. Walker.....Elizabeth City

*Second District*

Dr. Grady G. Dixon.....Ayden

*Third District*

Dr. J. B. Cranmer.....Wilmington

*Fourth District*

Dr. W. H. Smith.....Goldsboro

*Fifth District*

Dr. E. A. Livingston.....Gibson

*Sixth District*

Dr. V. M. Hicks.....Raleigh

*Seventh District*

Dr. T. C. Bost.....Charlotte

*Eighth District*

Dr. R. B. Davis.....Greensboro

*Ninth District*

Dr. M. R. Adams.....Statesville

*Tenth District*

Dr. J. F. Abel.....Waynesville

*Chairman Committee on Arrangements*

Dr. C. A. Julian.....Greensboro

\*Deceased

## EXECUTIVE COUNCIL

## ONE YEAR TERM

Dr. Warren T. Vaughan.....Richmond, Va.

Dr. M. H. Wyman.....Columbia, S. C.

Dr. L. G. Beall.....Black Mountain, N. C.

## TWO YEAR TERM

Dr. E. S. Boice.....Rocky Mount, N. C.

Dr. F. B. Johnson.....Charleston, S. C.

Dr. R. L. Payne.....Norfolk, Va.

## THREE YEAR TERM

Dr. J. Bolling Jones.....Petersburg, Va.

Dr. D. A. Garrison.....Gastonia, N. C.

Dr. W. R. Wallace.....Chester, S. C.



## OBSERVATIONS ON THE DIAGNOSIS OF PULMONARY INFLAMMATION\*

B. M. RANDOLPH, M.D., Washington, D. C.

Professor of Clinical Medicine, George Washington University

The subject indicated by my title may seem a trite one to bring to the attention of such a group of professional men as this. A rather large opportunity for observing the practice of medicine as it is actually done makes me feel that, while theoretical knowledge of the literature of the subject is sufficiently common, the actual performance of our profession as a whole leaves much to be desired. I trust, therefore, it will not be taken amiss, if I try to point out some of the reasons for the conditions that I believe exist, and present some ideas that have been helpful to myself.

We study the manifestations of lung pathology in the human being from four standpoints, to-wit:

1. Its relation to the subjective experience of the patient, both remote and recent; the history.

2. Its effect upon the physiology of the patient, both as regards the lung itself, and also that of the general body system; the symptoms.

3. The objective changes from the normal produced by the lesion, both in and beyond the lung; the physical signs.

4. Study of the pathological material procured from the patient, both before and after death; laboratory indices.

To begin with the discussion of the last named, we consider that the lesion, that is, the anatomical variation from the normal, may be in the bronchial tree, in the mediastinum, in the alveolar tissue, or, in the pleural cavity; it may be solid, liquid, or gaseous;

it may result from the products of inflammation, from the natural processes of repair, or from neoplastic proliferation; it may be caused by parasitic infection, or be the result of congenital or acquired mechanical defect, as in emphysema, bronchiectasis, or collapse. The point I would urge is that the intelligent interpretation of the changes observed requires sufficient pathological knowledge for the observer to have, as he studies the patient, an actual mental image of the pathological possibilities present. Such pathological knowledge can be had only from the actual study of pathological material.

As we are discussing pulmonary inflammation, that is the picture presented by bacterial infection, it should stimulate profitable discussion to consider the manner of bacterial invasion of the lungs and pleural cavity.

I have read a large amount of literature on this subject, and I wish to state that I have never been able to find satisfactory proof that spontaneous infection of non-traumatized pulmonary tissue ever results from the direct inhalation of bacteria into the parenchyma of the lung with the inspired air. The idea that such an event took place was of course the obvious inference as to the mechanism of pulmonary infection, when Koch first established the relationship of his bacillus to all tubercle. Since then, however, clinical and experimental data have pointed steadily away from this assumption.

The study of the behavior of bacterial infection in regions where it can be observed, as in surgical infections, together with a study of the anatomy of the lungs, especially of their blood and lymph supply, seems to furnish a complete analogy between infection of pulmonary tissue, and that of other parts of

---

\*Presented by invitation to the Fifth (N. C.) District Medical Society, meeting at Sanatorium, October 10, 1928.

the body. Apparent differences are to be explained by structural and physiological differences of tissues involved, and by differences in the behavior of infecting organisms. I have come to believe that invasion of the lungs by bacteria occurs in two, and in only two ways: through the lymphatic pathways, and through the blood stream; giving rise to two types of lesion: infiltrative pneumonitis, and infarction.

Without elaborating on the anatomy of the pulmonary lymphatic system, I will only recall that it consists of:

- a. The pleural cavity.
- b. An intra-bronchial sub-epithelial network of lymph spaces.
- c. A peri-bronchial and inter-alveolar system of lymph spaces.

All these lymph spaces drain through collecting lymph vessels into a very abundant system of lymph nodes surrounding the trachea and bronchi, and scattered through the lung. After filtration, the lymph passes into the venous system. All these lymph spaces communicate freely with one another. Furthermore, there is continuous communication through the sub-epithelial network of the lymphatics of the oral cavity, nasopharynx and peritonsillar tissues with the lymphatics of the entire tracheo-bronchial lymphatic system. So, bacteria present in any part of the above lymphatic system may find their way to any other part of the same.

With this anatomical picture in mind we can understand the phenomena of bacterial invasion of the lungs in a way that without it is very bewildering. In order to understand the great variety of manifestations exhibited by pulmonary inflammation, we are further aided by taking into consideration the biological characters of different bacteria, variations in virulence of the same organism, and also the variations in the specific immunity and general resisting power of the host.

Let us take for example certain well established characteristics of three of the most common producers of pulmonary inflammation.

#### 1. *Pneumococcus*, Type 1.

Whether it invades lungs, pleura, peritoneum, meninges, or conjunctiva, this organism produces a similar type of lesion: that is, acute, rapidly spreading, superficial, self-lim-

ited; a profuse exudate with a large fibrin content; systemic intoxication intense; a high leucocytosis, with a high polymorphonuclear percentage; it does not extend to deeper mesoblastic structures, so that after recovery, no scar tissue, or other pathological residue remains, except pleural adhesions; its termination is abrupt, and convalescence rapid; the typical lobar pneumonia.

#### 2. *Tubercle Bacillus*.

Growth slow, twelve days, as against twelve hours of the preceding; time is afforded to wall off the implant by local protective reaction; hence tubercle. Its toxic symptoms are relatively mild; it does not tend to produce epithelial lesions, though it sometimes does; it tends to localize in lymph nodes, where it may or may not cause ulcerative necrosis; very tenacious of vitality; its characteristic exudate is not fibrinous or purulent, but caseous; its cicatrix calcification; its activity in the body is characteristically influenced by the phenomena of immunity, which is prolonged, and sometimes permanent.

#### 3. *Streptococcus*.

A very capricious and highly adaptive type. Its growth period is short, though not so short as that of the pneumococcus; its exudate is purulent; it does not tend to focalize as do the tubercle bacillus and staphylococci, but spreads along lymphatic pathways with great rapidity; it does not confine itself to epithelial surfaces, but infiltrates all lymph spaces; it exhibits all degrees of virulence, producing at one time as violent disease as the pneumococcus, and again the ultrachronicity seen in many focal infections; the former may follow the latter in the same patient. The leucocytic picture presents the widest possible variations, both in numbers and percentages. It seems able to assume the characters of a specific exanthem, as in erysipelas, scarlet fever, and, perhaps, a rheumatic fever. It tends to advance by steps, invading a limited area, resting, and advancing again. Hence its course and extent is indeterminate, its duration capricious, and its prognosis uncertain. It is the usual cause of broncho-pneumonia, a disseminated infiltration.

A proper conception of the mechanism of the development of pulmonary inflammation, and also of the variation in the behavior of different organisms, is essential for diagnosis

and for sound prognosis. When we realize that inflammation of the lungs arises either from a continuity infiltration of the lymphatic network underlying the tracheo-bronchial epithelium, or else develops from a focal infection of the tracheal, mediastinal, or peri-bronchial lymph nodes, spreading radially from the hilum of the lung toward the periphery along the peri-bronchial lymph spaces, or the pleura, we will naturally look to the hilum for the early physical signs of the condition. If it should be asked what is the reason for the delay that so often occurs in recognizing the presence of inflammatory exudate in the lungs, I should say:

1. Failure to examine the patient's back. The front and sides of the chest do not reveal the presence of an exudate until it is extensive, and there can be a very considerable hilum pneumonia, which gives no physical signs, except when approached from behind. Many such cases remain hilum inflammations throughout, and may go on to resolution, or even develop an empyema, without having been recognized.

2. Thinking in terms of nomenclature, names, words, rather than in terms of pathology, and hunting for a pathognomonic sign as essential to diagnosis. The words *pneumonia* and *crepitant rale* are so closely associated in the minds of many physicians, that they do not venture to use one without the other. The crepitant rale is not heard until the exudate is just beneath, or, at least very near the parietal pleura.

3. Too many examinations are perfunctory, made with the idea of impressing the patient or his family, or else to ease the examiner's conscience with the idea that he has left no duty undone, rather than with the expectation of solving the problem present. The inevitable effect of such examinations is to form a careless habit, so that the examiner does not develop skill, and loses confidence in his own ability as an examiner.

We all start out with about the same equipment of sight, hearing and touch. That is, we all have the resources for making the observations required for diagnosis. A carpenter can find by percussion where to drive a nail in a wall. It does not require a trained musician to detect gross differences in the pitch and quality of a sound. The average woman can go to a tea, come home and tell

exactly what there was to eat and drink, how every one was dressed, how the house was furnished, exactly what every one present said, and this in spite of the fact she talked herself without intermission the entire visit. We need not be endowed with any unusual qualities, but only to use what we have to make the observations necessary for diagnosis.

The same principles apply to the history, the difference being that the data exist only in the mind of the patient, and so must be gotten second hand. I do not mean that the weight to be attached to such information is not important, or that it is less important than that obtained from physical and laboratory examinations. An eminent specialist in tuberculosis recently in a published address said that if he had to dispense with either the history or the physical examination, he would keep the history, and let the examination go.

As age and experience increase, I find that I tend to set a steadily increasing store upon what the patient has to say about his pain or distress; its site, severity, character, constancy or intermission, time of onset, its association with cough, position, movement, rest,—indeed everything he can be made to tell about it. We are often apt to discount what the patient tells us, if it does not fit in with our notion of what the trouble is. We use the terms *imaginary* and *hysterical* rather carelessly. Not infrequently, when a mistaken diagnosis is replaced by a correct one, the first thing that strikes us is that if we had attended to what the patient told us in the first place, the error might have been avoided. A truthful history correctly interpreted cannot lie.

It seems proper in this connection to mention some of the lesions that offer problems of differential diagnosis.

#### 1. *Pulmonary Infarction.*

This lesion presents physical signs that are identical in quality with those of pneumonia. The difference lies in the fact that the condition arises from obstruction of a blood vessel by material brought from a remote lesion by way of the blood stream, instead of being implanted by lymphatic infiltration. The anatomy of the blood supply determines its size and shape. It may be septic or aseptic, single or multiple. Its isolated situation, sur-



rounded by healthy lung tissue, its size, shape, and the history of the onset, together with the existence of a potential source of embolism, as a septic focus, thrombo-phlebitis, or endocarditis, will usually enable us to form a correct opinion of its nature. The differentiation is important from the standpoint of treatment and prognosis.

## 2. *Pulmonary Lesions with Abdominal Symptoms.*

Abdominal pain and localized tenderness, with rigidity, vomiting, fever and leucocytosis not infrequently occur from pulmonary inflammation, especially in children. In a clinical examination given a senior class, I asked the question, "Describe pneumonia as you have seen it." One answer recited an emergency operation for acute appendicitis, at which no abdominal pathology was found, and which turned out to be pneumonia of the right lower lobe. We all know of such cases. So long as the principle prevails of treating all cases of appendicitis as proper subjects for emergency surgery, this mistake will continue to be made; for the diagnosis cannot always be made at a single examination. The only local signs of an early pneumonia may be increased respiratory rate, limitation of the excursion of the lower segment of the chest, and suppressed breathing, all of which may occur with appendicitis, or with other pathology of the upper abdomen. Having the possibility of such a situation in mind, a careful study of the history of the period immediately preceding the onset, and of the onset itself, and, in doubtful cases, waiting six to twelve hours for further study of lung developments will usually save the patient from superfluous surgery.

## 3. *Empyema and Pleural Effusion.*

The recognition of the presence of fluid in the pleural cavity is ordinarily not made until the accumulation is massive, when the diagnosis can be made by inspection alone. Mediastinal and interlobar accumulations cannot be recognized with certainty by physical examination alone. They may be suspected from the behavior of the temperature curve and the leucocyte count, but the diagnosis must be established by the x-ray. It is fortunate that small accumulations of pleural fluid are not immediately serious.

In my opinion the aspirating needle should rarely be used to diagnose the presence of

fluid, but rather to determine the character of fluid that we are assured is present. I have seen more than one serious situation arise from puncturing when no fluid was present. In one case repeated diagnostic punctures were made. Finally pus was obtained, but not until an abscess had been caused by repeated lung puncture. This case developed a pulmonary abscess, which fortunately established a bronchial fistula, and so healed, but he went through a long and a grave illness.

## 4. *Primary Neoplasms of the Lung.*

Fortunately these are rare. They cannot be differentiated by the history and examination alone. The history and course of the malady will, with the aid of the x-ray, usually establish the diagnosis. Even these may fail, and the diagnosis not be made until the occurrence of metastases, or at autopsy.

## 5. *Cardiac Disturbances Arising from Mediastinal Pathology.*

This is a very definite group, in which the symptoms consist only in dysfunction of the heart; tachycardia, arrhythmia, dyspnea. I recall the case of a middle aged man, who, from time to time, suffered such attacks. I at first attributed them to myocardial pathology, as, under rest and digitalis, they would subside. I was never able to control him between attacks, or to get him to have an x-ray. During an exceptionally severe attack he was seized with a violent spell of coughing, which produced a large expectoration of pus. This was followed by complete relief. This was a dozen or more years ago. He has never consulted me since, but I learned that he was still holding down his job several years after the above experience. My belief is that this man had a chronic abscess of the mediastinal lymph nodes, which had been walled off, and ultimately ulcerated into a bronchus. I have seen this pathology at autopsy.

I have purposely said little about the x-ray in this discussion, but I do not wish to close without testifying most earnestly to its value, not only in the solution of diagnostic problems presented by individual cases, but also in advancing our knowledge of lung pathology, and in the study of the origin and course of pulmonary lesions.

## SUMMARY

It will be noted that both in my title and



in my discussion I have avoided the use of terms that are particularly associated with the diseases and physical signs of the lungs. My purpose in so doing is to bring out the analogy that I believe exists between infection of the pulmonary system and that of other parts of the body; that, given a comprehension of the structural and physiologic differences of the lungs from other organs, the behavior of infection therein by a given organism is just what we should expect from what we see that organism do elsewhere.

In conclusion, the same ancient principles apply to the diagnosis of diseases of the lungs as to diagnosis in general.

Our old Latin diplomas used to declare us to be *doctissimus* (very learned), and *prae-*

*clarissimus* (very distinguished), in the *science* and *art of medicine*. These two, science and art cannot be separated. The art comes with repeated drill in taking histories, in making examinations, and in prescribing treatment. Hippocrates said a long time ago that art is long, time short, and judgment difficult. We cannot therefore waste through careless technique any time in the acquisition of our art. We must keep abreast through study with progress in science, not forgetting what we have already learned. And, as we increase in experience, we do, if we are endowed with common sense and sympathy, acquire a measure of that difficult quality, judgment.

---

#### SOUND SENSE ON PROVISION FOR RELIEF AFTER DISASTERS

Last month widespread disaster due to a hurricane which devastated portions of Porto Rico and Florida showed the necessity of having a fund set aside by the United States Government to be used in such emergencies. There is no reason why the burden of supplying aid to the needy in time of great disaster should fall upon a few generous and philanthropic individuals who upon request contribute to the treasury of the Red Cross. Several million dollars were needed to provide food, clothing, shelter, medical attention, and even burial of people who suffered from the effects of the hurricane. The government should have been ready to meet the needs instantly, and the fund could have been safeguarded by placing it at the disposition of the Red Cross under suitable restrictions. There is no reason why the Red Cross should depend upon private donations in time of widespread disaster with the loss of hundreds of lives and the destruction of millions in property. Incidentally, one of the largest contributors in time and money at a time of national disaster is the regular medical profession which responds promptly and willingly to the call for aid which has to be given by physicians at no little sacrifice of time and means.

When the hurricane of last month devastated portions of Florida, and in the wake of

the storm there followed injuries and disease, even pestilence, the members of the regular medical profession were the ones called upon for professional services. The osteopaths, chiropractors, naturopaths, christian scientists—medical pretenders, and medical fakers of any and all descriptions—were not asked to contribute their services, and for the good and sufficient reason that the Red Cross officers and the people generally realize that the real, honest-to-goodness trustworthy services in time of widespread disaster can be rendered by members of the regular medical profession. Furthermore, it is the members of the regular medical profession who answer the call at a time of widespread disaster, without thought of reward of any kind whatsoever. The cultists and quacks do not offer their services because they generally require payment for any work that they do, and in all probability the offer of their services would not be acceptable anyway. It is unfortunate that this whole matter is not analyzed to a sufficient extent by the public and a proper estimate upon the services of quacks and pretenders fixed for all time.—*Jour. Indiana State Med. Assn.*

---

A genuine California patriot is a man who derives a certain amount of satisfaction for getting almost killed by a Florida hurricane.—*San Diego Union.*

---

Asking in a political whisper what proof have we that Candidate Charlie Curtis doesn't intend to give this country back to the Indians.—*Arkansas Gazette.*

## GROUNDWORKS FOR OPTIMISM IN CARDIAC PROGNOSIS\*

LESLIE T. GAGER, M.D., Washington, D. C.

From the Department of Medicine, George Washington University School of Medicine

The belief that heart disease means sudden death has long existed in the minds of men. It is an association of ideas which began in a day when the physiology of the circulation and the significance of the symptoms and signs of its disorders were far less well understood than now. It continues at the present time because of two further facts: one, the conspicuous leadership of diseases of the heart among the causes of death—199 per 100,000 of population in the registration area of the United States for 1926, a rise from 178.1 in 1924 and 186 in 1925; and in the decade, from 150.6; the other, the publicity which is given to those dramatic incidents which occur, for example, on the golf course, in the banquet room or office, or even during an exciting hour of radio, and in which attention is focused on the climax, and the slowly unfolding processes which preceded, are forgotten.

Our own profession has labored under the fear of the "doctor's disease." John Hunter's vascular response to psychic stimulation has been a familiar story to every student; as it was, he lived on twenty years despite his attacks; and it is now clear<sup>1</sup> that Sir James MacKenzie knowingly shortened his life by his endeavors for St. Andrew's after many years of illness with angina pectoris. Nevertheless, careful analyses<sup>2, 3</sup> of the illnesses of medical men, and in particular of their cardiac disorders, frequent as they are, reveal no unusual preponderance of coronary disease. It is cheering, indeed, to find that doctors are actually longlived, and to reflect that many of them approach that ideal of fulfilling their span of years, when death from old age and death from circulatory defect may prove to be one and the same.<sup>4</sup> In the meantime, pneumonia, "friend of the aged," is far more likely than angina to pay the final visit, either to some obscure Weelum MacClure<sup>5</sup> or to an Osler.<sup>6</sup>

### OPPORTUNITY AND RESPONSIBILITY

The truth of the matter, the essential fact

which gives the physician his opportunity—and his responsibility—is that heart disease so often casts its shadow before, and advances so gradually that prevention, cure or control are, in some degree, usually made possible.

In the life of the cardiac patient there is a time when proper action, opportunely taken, gives optimism to prognosis. When we fail in such action the picture may be dark indeed, as I may show by three recent experiences.

A boy of 10 years is brought to the heart clinic a month after his first attack of acute rheumatic fever. For several winters, the history discloses, he has had repeated tonsillitis. On examination, the patient is pale, weak, and breathless on the slightest exertion. The tonsils are large, infected, and the nodes beneath the angle of the jaw are palpable and tender. The heart is rapid, the impulse is diffuse, there is great enlargement, and the signs of aortic insufficiency and mitral stenosis and insufficiency are present. The temperature is still slightly elevated.

Here it is evident that grave damage has been done, and one cannot escape feeling that the postponement of tonsillectomy was the decisive error, coupled later with the insufficient use of salicylates and failure to keep the patient at rest.

A second patient, a man of 45 years, an artisan, with a wife and two children living and well, had noticed shortness of breath and a throbbing in his chest for one year. At length, he developed a husky voice and then sought medical attention. The doctor, he said, looked at his tongue and felt his pulse (which should have given the diagnosis) and treated him for bronchitis over a considerable period. Finally, in other hands a throat examination revealed the vocal cord paralysis, which led to the disclosure of the classical signs of syphilitic aortitis, aortic insufficiency, and aneurysm of the arch. Intensive treatment was given, but the man was dead within four months. There was a history of primary infection twenty-five years before.

In this case, the patient's own neglect made

\*Presented by invitation to the Fifth (N. C.) District Medical Society, meeting at Sanatorium, October 10, 1928.

early treatment impossible, but does not excuse his physician for failure to make an adequate examination.

The third patient illustrates a defect, not in prevention, or diagnosis, but in the management of a well recognized condition. A man, aged 63 years, an executive, with permanent hypertension and arteriosclerotic heart disease, had had, two years previously, an attack of severe substernal pain lasting several hours. There was quick recovery and freedom from symptoms. One night his automobile broke down on the road, and he hurried to a garage to get help. Within twelve hours, there was a second attack of continuous pain in the upper chest. High arterial pressure was succeeded by hypotension. There was a daily rise in temperature to 99 and 100. At the end of three weeks, in a moment of unwise and unnecessary exertion, the patient fell dead.

A diagnosis of coronary obstruction and myocardial infarction had been made and confirmed, and in retrospect, the freedom of movement which had been allowed, slight though it was, was too great for a man in his critical condition. Absolute rest should have been enforced until the cessation of fever indicated the end of the inflammatory reaction and a rise in arterial pressure the return of myocardial power.

From experiences such as these it may be concluded that the physician must watch for the causes of heart disease, must recognize and interpret changes in the structure and function of the cardiovascular system, and must be guided by these findings in his management of the patient.

#### ESSENTIALS IN CARDIAC DIAGNOSIS

After observing for a number of years the diagnostic efforts of students, including men in practice who have come back for a "brain-dusting," it has occurred to me that even the busiest practitioner might bring some order out of chaos and go far in discovering, or—what is equally satisfactory to the patient—excluding heart disease, if he can get a definite answer to four questions. Two of these relate to the patient's symptoms, and two to physical signs. The questions are:

1. Do you have shortness of breath on exertion?
2. Do you, on exertion, have pain beneath the sternum?

3. Is there cardiac enlargement?

4. Is the blood pressure high?

Undoubtedly this is reducing the study of circulatory disease to simple terms. But I submit that if you get negative answers to these four questions, you will base an essentially reassuring opinion on sound facts in cardiac physiology.

However, if the answer to one or more of the questions is in the affirmative, I suggest that the physician see that his patient is thoroughly studied.

First, in respect to etiology, remembering that the three great groups of heart disease are the rheumatic, the syphilitic and the hypertensive-arteriosclerotic. It makes a difference in treatment, and prognosis, as to which of these causes, for instance, underlies an aortic insufficiency, or whether, in auricular fibrillation, thyrotoxicosis or mitral stenosis is antecedent.

Facts in the family history regarding longevity and predisposition to disease will give information as to the material the patient himself is made of, and knowledge of his own habits and environmental influences will help to point out where wear and tear have occurred.

In the second place, alterations in structure may reveal not only the progression of the disease, but its very nature. The occurrence of a few petechiae or a splenic enlargement may change the diagnosis from rheumatic to bacterial endocarditis; retinal hemorrhages and exudation may alter one's view of what otherwise might pass for benign hypertension. With medical students we are constantly striving to point out the value of the eye and the hand in physical diagnosis; yet the stethoscope is usually first on the scene, and of course changes in heart sounds and the presence of murmurs are, rightly interpreted, indispensable diagnostic data.

The physiological alterations, which are a third consideration in diagnosis, deal largely with changes in rate, rhythm, and impulse conduction within the heart muscle. It is here that the electrocardiograph has so often thrown light on the complex phenomena of the heart beat, nor should we forget the clinical and the x-ray laboratories, which often give welcome support or salutary chastening, and teach both caution and precision.

But it is not until we have determined, in



the fourth place, what our patient can do, his physical capacity, his response to the activities of his life, that we can put our data together, arrive at a cardiac diagnosis, and are in a position to consider prognosis.

#### THE HEALING POWER OF NATURE

One optimistic side of the care of patients with heart disease is that they often do far better than we expect. Nature and her healing power constantly surprise us, particularly, if, instead of placing obstacles in her way, we can break a vicious circle of disease or contribute a positive therapeutic benefit. Thus, in a patient with rheumatic heart disease, or it may be with hypertension, the removal of infected teeth or tonsils, of a gall-bladder or an appendix which flare up from time to time, of an enlarged prostate or a displaced uterus which interfere with the outflow of urine and thereby with kidney function, may not only not be contraindicated, but be found to add greatly to the well-being of the patient.

Of course, we do all these things best if our understanding of the individual situation is as complete and well founded as possible. There will continue to be sudden deaths from heart disease, but fewer of them should be unexpected, and many can be avoided or long postponed.

In a footnote to his distinguished Bright oration in 1927, Thayer<sup>7</sup> has recounted a prognostic downfall, of the happier sort, in the experience of a man who is rated among the first five or six medical geniuses. A physician of 45 years went to Richard Bright because of marked albuminuria, and received the opinion that he had less than two years to live; whereupon he retired from practice, lived comfortably in the country for 43 years, the albuminuria persisting, and died of cerebral hemorrhage at the age of 88.

Such examples, shall we say of the benefits of a new environment or a change in an old one, have come to the attention of all of us, and they bring the thought of what can be done to increase the content and length of life when social and economic support give full scope to preventive medicine.

#### RHEUMATIC HEART DISEASE

At the present time, the patient with rheumatic heart disease dies at an average age of from 28 to 32 years. The first attack of acute rheumatic fever, in carefully studied

series,<sup>8, 9</sup> has occurred before the age of 30 years in from 79 to 85 per cent; before 20 years, in from 55 to 64 per cent. The younger the patient, the more likely is the involvement of the heart. Severe forms of cardiac complication—valvulitis, cardiac enlargement, pericarditis, persistent tachycardia and premature beats, have been found in 79 per cent of children between 10 and 15 years during or after their first attack of acute rheumatic fever. If there is added the electrocardiographic evidence of myocardial involvement, the number becomes nearly 100 per cent.<sup>10</sup> Under rest, the salicylates, the upbuilding of nutrition and resistance, the minor lesions subside; on the other hand, the rheumatic infection unless most patiently treated may go on insidiously but progressively. New valve lesions are found years later, and reactions both of infectious and allergic nature bring relapses from time to time. Acute lesions in the heart have been found 38 years after the initial infection of the joints.<sup>11</sup>

During a period of two years, the opportunity was given to me of studying a group of these children with rheumatic heart disease in a school for their vocational training.<sup>12</sup> These facts regarding the progressiveness of their infection had been recognized and the attempt was being made to safeguard their future by teaching them useful work which would be within their physical capacity. Bad teeth were repaired or extracted, diseased tonsils removed, weight built up by school lunches, hygiene regulated by oversight of home conditions and instruction at school, posture improved by suitable exercises.

The result of all this was that morale improved as much as physique. Attendance was high. Morbidity was low. The children did so well that the experiment came to an end, for it was decided that they could be taken back into the regular classes. At any rate, it was shown that children with rheumatic heart disease progressed satisfactorily during the supposedly dangerous years of early adolescence, with a moderate degree of special attention. It follows, I think, that if such patients could be similarly controlled throughout their later lives, they should greatly exceed their present expectancy, and be vastly more useful to themselves and others.

There is clinical observation to support this



possibility. I recall an example in a woman of 76, who had lived a laborious life, free from symptoms, up to the time she came to the hospital three weeks before her death. The necropsy revealed old rheumatic lesions of mitral and aortic valves, superimposed on the latter being arteriosclerotic changes which had produced an extreme aortic stenosis. Not long ago I saw a man of 70 years, whose study showed hypertension, auricular fibrillation and congestive heart failure. With considerable satisfaction he produced a copy of a medical examination made by three competent men 33 years before, which recorded a rheumatic history, an enlarged tender liver, a "marked mitral regurgitant murmur," and a pulse rate, after climbing stairs, of 172 beats per minute. The association of rheumatic heart disease and hypertension<sup>13, 14</sup> is an interesting subject for the physiologist and the clinician, and it has been suggested, that in mitral stenosis, the enlargement of the left ventricle which follows high pressure, widens the mitral ring, counteracts the valvular obstruction and forms a compensatory mechanism of favorable import.

#### SYPHILIS OF HEART AND AORTA

When we deal with syphilis of the heart, provided that the pathological condition is recognized before irreversible secondary changes have occurred in coronaries or myocardium, specific treatment undoubtedly may transform an otherwise hopeless outlook. When an aortitis is revealed by an aneurysm of the aorta, or by insufficiency of the aortic valve, the life expectancy, as you know, is usually not over two years. Even this situation is sometimes altered greatly by specific treatment, and ten year cases or others of even greater duration are by no means an infrequent result. It is only fair to say that careful management of such patients under iodides and mercury had accomplished equally good results in the days before arsphenamine and bismuth: in other words, the intravenous and intramuscular remedies, because they are powerful, must be used with caution, and constant attention to the reaction of the patient with manifest cardio-aortic syphilis. The earlier discovery of vascular syphilis is the key to a better prognosis. When heart disease occurs in young adults without a clear-cut etiological factor, think of syphilis: in patients with syphilis, look for heart disease.

In primary and secondary syphilis, the heart rarely gives evidence of disease and when the latent period is ending, who, without searching and repeated examination, can detect the early signs of aortitis and myocardial disease?

#### HYPERTENSIVE HEART DISEASE

Five-sixths of the deaths from heart disease occur after the age of 50 years, and hypertension and its sequelae are responsible for the great majority of them. High pressure, particularly diastolic, places a constant strain on the heart muscle, and at the same time, produces arterial and arteriolar changes which interfere with that muscle's nutrition and oxygen supply. A vicious circle is thus established, which ends in myocardial failure, unless apoplexy, uremia or unrelated diseases intervene.

For a proper prognosis, we need to know the family and life history of our hypertensive patient, as well as his present condition. Heredity plays a role. The beginnings of hypertension are to be found early in life in such vasomotor disturbances as are shown by flushing, cold hands, acrocyanosis, "sympathetic instability." Elevated arterial pressure appears in youth, rises in degree and increases in frequency as the decades pass.

The story of hypertension is well told in this history of G. W., a physician, aged 56 years.

His father died at 58, after a stroke and heart attacks.

At 29, the patient first noticed a tingling in his fingers. At 31, the sphygmomanometer became available, and his pressure was 140 mm. He was told then that he had slight hypertrophy of the heart and a systolic apical murmur.

Subsequently there is a blood pressure record for 25 years. There were fluctuations, but on the whole, a progressive rise. He practiced until 1920, when occipital headaches became persistent, and retinal hemorrhage occurred. At that time after three weeks in bed, his pressure was 170/110.

Today, he is a man of normal weight, somewhat red faced and plethoric, but with no symptoms except irritability and occasional dizziness. Formerly a heavy meat and salt eater, he has restricted his diet. He has normal kidney function. The heart is slightly enlarged to the left, there is a short systolic murmur at the apex. The retinal arteries

are sclerosed, but there is no retinitis. His blood pressure was 220/130; later it fell to 174/104.

Thus a man who is willing and able to take care of himself does remarkably well and his prognosis is in striking contrast with data<sup>15</sup> which show that 90 per cent of patients with hypertension are dead within ten years of leaving a consultant's office. Hypertension begins early, should be discovered early, and treated early.

But even severe retinitis, which is perhaps the finding in hypertension which conveys the worst prognosis,<sup>16</sup> may be successfully dealt with, as in the case of F. R., aged 42 years, who was given six months to live by his ophthalmologist. On a low salt and protein diet, under strict supervision, he recovered his vision, married, and worked seven years, before he succumbed at 50 to cerebral hemorrhage.

When F. J., aged 43 years, was first seen, she had a blood pressure of 250/140, was the mother of three young children, and was helping to support them by making shrouds in a casket factory. Her high pressure was first discovered at 30 years, but she said she had outlived the doctors who had given the worst prognoses. During the five years I saw her, she underwent an unending series of "vascular crises," comas, and finally a "stroke," but when last seen in 1927, was again traveling about, an unsubdued optimist.

#### A WAY OF LIFE

In closing this plea for an optimism, in dealing with patients with heart disease, which is solidly grounded on careful and complete diagnosis, leading to appropriate treatment, I should like to quote a paragraph by Allbutt<sup>17</sup> bearing on prognosis. He is discussing aortic disease, but his clinical wisdom applies to all structural affections of the heart:

"If the patient, whether in a palace or in a workhouse, be a man of easy circumstances and tranquil occupations, he has the greater chance of survival. Care or worry, bustle or toil, will kill him. There are men of such a temperament that they cannot form sedate habits: recklessly, as it seems to the doctor, they skip up stairs two at a time; they puff after trains; they climb over five-barred gates; they bounce up from deep sleep to

pass water, and so forth; they do not mean to run these risks, but such is their incorrigible temperament. With such persons discipline must be attained by spending day after day in drill, in gaining self control, in repressing volatility. In this precaution there is nothing false to a man's best self: it is the way to get the most work out of himself before he dies. Persons in toilsome callings must change them; and spend the perhaps no less useful remnant of their days in some easier duties. Due vigilance may be exercised without the encouragement of hypochondria; as some one well put the rule: find out what you can do and do it; find out what you cannot do, and never do it."

1614 Rhode Island Avenue, Northwest.

#### REFERENCES

1. Wilson, R. MacNair: *The Beloved Physician*, Sir James Mackenzie. Macmillan, New York, 1926.
2. Hyman, A. S.: *The "Doctor's Heart."* J. A. M. A., 88:712, 1927.
3. Editorial: Deaths of Physicians. J. A. M. A., 90:465, Feb. 11, 1928.
4. Cohn, A. E.: Heart Disease and Public Health. Am. Heart J., 2:393, 1927.
5. MacLaren, Ian: *The Doctor's Last Journey*, in Beside the Bonnie Brier Bush.
6. Cushing, Harvey: *Life of Sir William Osler*, Vol. II.
7. Thayer, W. S.: Richard Bright. Guy's Hosp. Rep., 77:253, 1927.
8. Willis, F. A.: A Study of the Course of Rheumatic Heart Disease. Am. Heart J., 3:139, 1927.
9. Mackie, T. T.: Rheumatic Fever—An Analytical Study, etc. Am. J. M. Sc., 172:199, 1926.
10. Swift, H. F.: Rheumatic Fever. Am. J. M. Sc., 170:631, 1925; The Heart in Infection. Am. Heart J., 3:629, 1928.
11. von Glahn, W. C.: Rheumatic Infection. Tr. Assn. Am. Phys. Abst., J. A. M. A., 90:2137, June 30, 1928.
12. Gager, L. T.: On Vocational Training for the Cardiac Child—Observations on Selection and Prognosis. Am. Heart J., 1:707, 1926.
13. Boas and Perla: Hypertension in its Relationship to Mitral Stenosis and Aortic Insufficiency. Am. J. M. Sc., 172:648, 1926.
14. Levine and Fulton: The Relation of Hypertension to Mitral Stenosis. Am. J. M. Sc., 176:465, 1928.
15. Hamman, L.: The Prognosis of Hypertension. Atlantic M. J., 31:472, 1928.
16. Keith, N. M., Wagener, and Kernohan: The Syndrome of Malignant Hypertension. Arch. Int. Med., 41:141, 1928.
17. Allbutt, Sir T. Clifford: *Disease of the Aortic Area of the Heart*. Allbutt's System, 6:955, 1898.

We assume that the first day of the millennium will be given up wholly to wets and dries agreeing as to how the liquor problem could be solved.—Louisville Times.

## THE DIAGNOSIS OF TUBERCULOSIS IN THE EARLY STAGES\*

C. H. COCKE, B.A., M.D., F.A.C.P., Asheville

At the outset of this discussion I wish to make perfectly clear what is intended by the above title. Frequently have we listened to or read pages and pages of discussion of so-called "early tuberculosis," and so far no one has ever had the wit or knowledge to define that elusive entity. I use the term elusive advisedly, for, if we mean by early tuberculosis, the earliest pathological manifestations in the human body of infection with the tubercle bacillus, we shall be led far afield indeed and this by no means presumes a clinical manifestation of the *disease tuberculosis*. On the other hand, the earliest *clinical* manifestation of the disease tuberculosis may be weeks, months, or years subsequent to pathological changes, the result of tuberculous infection. Which is but another way of stating again, perhaps tritely, and it may be unnecessarily, that tuberculous infection and disease are by no means synonymous terms or synchronous achievements. I take it that what this body of practitioners is primarily concerned with in this discussion is the recognition of the *disease tuberculosis*, as early as the clinical manifestations will warrant such a diagnosis, not an attempt at evaluation of pathological matter which may or may not eventuate in disease. To begin then, I shall attempt in the all too brief time allotted me to point out the salient features, processes, and modes of arriving at a correct diagnosis of early clinical pulmonary tuberculosis, realizing full well that it is next to impossible to achieve such a result in the compass of fifteen minutes. And further, my remarks must necessarily be confined to the *adult patient's* manifestation of the disease, interesting as is its evolution and the recognition of it in younger persons.

*The history.*—The art of history taking is the beginning of successful diagnosis in many conditions—in none more so than in early clinical tuberculosis. First, one must attempt to discover the possibility of familial or other close contact. This is not always willingly

acknowledged, as both the patient and his family not infrequently harbor the mistaken idea that in some mysterious way a case of tuberculosis in the family should be hidden away with other family skeletons, not for public view. Quite frequently there is real ignorance on the subject and more diligent and detailed questioning will reveal the fact that some older member of the family may have suffered for months and months with an undiagnosed cough, have lost weight and strength; but no one ever said it was tuberculosis. Social and business associations, as well as the natural fear of the disease, at times distort the history given unless one asks definitely for symptoms—not diagnoses.

Proceeding to the history of the illness which brings the patient to the physician, after an enumeration of his childhood illnesses, their severity, complications and results, as well as the story of his past illnesses, their sequelae, if any, his business activities and surroundings, and habits of living and play, hours of rest, etc.—we pay particular attention to certain symptoms which may at once suggest the possibility of clinical tuberculosis. In so protean a disease as tuberculosis one can easily have symptoms referable to many organs and systems of the body; but when among other things one elicits the story of hemoptysis, of pleurisy with effusion, of fever—especially in the afternoon or evening, with lost weight and strength, with a lack of endurance or fatigability out of proportion to the exertion causing it, and a rapid (unexplained) pulse, one's thoughts are inevitably directed to the possibility of tuberculosis. These symptoms of themselves are *not pathognomonic*: they are truly *more than suggestive* and I wish there were opportunity for discussion of each of them, so that an attempt might be made at evaluation of each, its relative importance alone and in combination. Nor must one necessarily look for the whole combination in mass; that would make the matter all too easy. You will note so far, that, with the exception of the first two symptoms mentioned—hemoptysis and pleu-

\*Presented to the Tenth (N.C.) District Medical Society, meeting at Burnsville, October 17, 1928.



rising with effusion—nothing especially calls your attention to the pulmonary organs. When to the above are added: the story of chills, or maybe chilly sensations especially after meals; sweats at night, mild or severe, single or repeated; a cough at first thought to be associated with a cold or some other acute respiratory infection, which is first dry and hacking, unduly persistent and before long productive with a sputum that at first may have but a very small pus content (but that small portion most important for study); and pain, of not unusually severe but rather persistent character and of unexplained origin, frequently subscapular in location—I say when the history discloses these things one is well on his successful way to a diagnosis of tuberculosis. The history of repeated respiratory infections or colds or self diagnosed mild attacks of "flu" is very suggestive, as is also the presence of fistula in ano, although in my personal experience this has been an accompaniment usually of a more advanced stage of the disease. The above enumeration of symptoms (for it is hardly more and really the list needs amplification and discussion) would not be even moderately complete did I not mention that frequently the patient directs his whole attention and thought to his gastro-intestinal tract with the story of failing appetite, poor digestion, gas and rumbling bowels, constipation, with furred tongue, bad taste in mouth, while in young women the story of menstrual disorders and amenorrhea is common. Four things the tuberculo-toxin may do to the human organism: split up fats (lost weight); upset the temperature balance (early morning subnormal reading with very easily excited rise—usually an excursion exceeding in one or both directions the normal); easy accentuation of the pulse (so-called "lability" of the pulse, effected apparently all too easily); and vasomotor instability manifested by flushes and skin sensations. These will not all be shown in every patient, but usually two or more of these four manifestations of bodily disturbance and normal balance are found in a case of early clinical tuberculosis.

*The general examination* of the patient, to be of value when only minimal evidence of clinical disease exists, must be made at such a time and in such a manner as to elicit every possible lead to a proper diagnosis. The pa-

tient's weight, height, temperature, pulse and blood pressure having been recorded, he is placed preferably on a revolving stool facing the examiner and with a full light directly on his face. The contour of the chest, its form, motion on quiet and deep breathing noted with special recognition of limitation and lagging of expansion of one side as compared with the other, shoulder droop and muscle and subcutaneous fat, atrophy, more particularly in the supra- and infra-clavicular regions should be looked for. When one finds this localized flattening associated with limitation and lagging motion, inspection has become an aid to diagnosis second only to auscultation. Since changes in vocal fremitus do not usually occur until a fairly advanced tuberculosis is present, little help in discovering early clinical tuberculosis is to be expected from eliciting it. Since percussion is one of the most difficult of the arts of exploration to acquire, unless performed in the most delicate and skillful manner, reliance upon slight changes is a bit hazardous. One sign, however, I feel is valuable that may be brought out, and that is limitation of expansion of one base as compared with the other, especially in the absence of demonstrable pleurisy and fluid on the limited side. It is quite interesting to note (and confirm by the fluoroscope) how much limitation of downward expansion of one diaphragmatic leaf can be made by a small apical lesion. Mensuration of the individual hemithoraces serves as a similar useful and objective lesson. In auscultation we have the chief reliance of the routine examiner. Breath sounds—their quality, pitch, duration, timbre, etc., are so dependent for proper interpretation upon the auditory acuity of the examiner, that I think it unwise to attempt to be dogmatic on the subject. But when one discovers at either apex or in the first or second interspace or supraspinous region, a definite, localized, constant shower of fine and medium moist rales, with or after expiratory cough, the assumption is fair that the lesion is tuberculosis. This assertion is made because of the well known frequency with which the disease is found in these locations. Of course, the auscultation should cover the entire chest, but the findings of signs at the bases is presumptive evidence, in the absence of apical findings, that the lesion is not tuberculous. Pleu-



ral crepitations are not infrequently heard at one base or the other with an apical lesion demonstrable only with difficulty. Since no rale is of itself pathognomonic of tuberculosis and since the rale of early clinical tuberculosis is frequently elicited only after expiration, cough and inspiration, it is well to emphasize again that location and persistence are more important than the character of the sound.

*The x-ray examination.*—In the absence at the present moment of a standardized acceptance of what is a normal chest, and in the further absence of a uniform nomenclature or language descriptive of lesions, one should look upon the x-ray only as a *proven aid* to diagnosis. With the fluoroscope we can see the limitations of diaphragm descent, certain inequalities of the chest, the failure of cough to illuminate the diseased apex as clearly as the unaffected one, the presence of otherwise undiscovered foci and small undiscoverable pockets of fluid and interlobar thickenings. It gives also a general topographical map of the lungs. In the stereoscopic film (I am happy to say the flat film is now a thing of the past), one can get a detail of the extent, quality and approximate age of the lesion unapproached by other measures of examination. But when all this is admitted, it is still pertinent to insist that while the x-ray may be an instrument of precision, it is only accurate as a register of density, it does not label processes, it is subject to the vagaries of the operator, it is more subject to the capacity and experience of the reader of the film, and lastly and most important, *it has its truest value only when the information derived from it correlates with the physical findings and with the symptomatic aspects of the case.* As suggested by Austrian in his recent classical article on the "Clinical Diagnosis of Pulmonary Tuberculosis" in the July number of the *American Review of Tuberculosis*, it is an excellent test of one's intellectual honesty to make the history, physical examination and x-ray findings one harmonious whole.

*Laboratory Tests.*—To conserve time I will not enumerate the many efforts at serological testing as an aid to early diagnosis. I can think of no better summary than to quote Krause (*American Review of Tuberculosis*, July, 1928, Vol. XVIII, No. 1, p. 53), who

says: "Indeed if there is any trick with the blood or serum, as applied to any disease and to pregnancy, that has not had its day in tuberculosis, and always with alleged success, the literature fails to recall it. The best commentary on the diagnosis of tuberculosis via the blood or blood serum is that today, after twenty or thirty years, we are still asking for such a detector, not only of active tuberculosis, but of just tuberculosis, of surely tuberculosis and nothing else where the tuberculosis really exists if in only 90 per cent or three quarters of its incidence."

Since sputum examination is the one laboratory procedure that can be done in all communities and with greatest ease and frequency, it is well to insist that this examination is only of categorical value when positive. In other words the absence of demonstrable acid rods in the sputum is not justifiable evidence sufficient for a diagnosis of *no tuberculosis* when other evidence of the disease is at hand. This being so, *repeated and proper* examinations of the sputum, *not once but dozens of times* are necessary.

*Tuberculin*—One more laboratory measure—tuberculin testing—and I shall be forced to close. Here we have testimony which is of value only when negative. Since a positive skin (intracutaneous) tuberculin reaction makes no distinction between *infection* and *disease* or inactivity and activity, one cannot diagnose tuberculosis from its presence, but when he finds a negative reaction in a patient who has none of the factors present which may inhibit the test, this negative information is of great value against the diagnosis of tuberculosis.

#### SUMMARY

It is true I have told you nothing new or unknown to you. The history of tuberculosis is not a distinct entity, the physical signs are rarely pathognomonic, the laboratory research is often inconclusive, the x-ray is unlabelled and sometimes hard to interpret. How then can we make a diagnosis? So far as I see it, only by proper elimination and careful exclusion—by painstaking search into the history, by meticulous care in the examination, by the use of the aids the x-ray and laboratory gives us. But more than this, by intellectual honesty, by zeal and patience, by repeated observation and remembrance that

our patient is suffering from symptoms not signs (whether you can elicit them or not), and that the burden of responsibility for proper evaluation of all these rests upon us, not specialists necessarily, but men trained in the careful observation and correlation of

systemic disturbances perhaps before focalizing signs arise, who are willing to think in terms of the protean disease tuberculosis which frequently makes its attack behind a dozen puzzling disguises.

514 Flat Iron Bldg.

## EXACT PULMONARY DIAGNOSIS STILL IMPOSSIBLE\*

VERIFICATION BY AUTOPSIES

SAM E. THOMPSON, M.D., Carrville, Texas

(Reprinted with permission of *The Journal of the Arkansas Medical Society*)

The difficult and obscure diagnosis in any disease is the valuable diagnosis. If the disease has progressed and gone forward to a degree where the diagnosis is patent, it offers, as a rule, little or no value. The more difficult it is and the greater the skill and experience required to make it, the greater is the value to the patient of the service rendered. *And there is no royal road to diagnosis. There is no way to move in on it and homestead it. The ability to make a good diagnosis comes with years of hard work and rich experience. So far it is a long way from perfection and probably always will be. The best we can do is to reduce our errors to a minimum.*

The most vitally important part of tuberculosis work is the comparatively early and approximately correct diagnosis. The words comparatively and approximately are used because I shall endeavor to show you later on that the disease cannot be diagnosed when it first begins and that its extent cannot be accurately and marginally outlined at any time. There is always more pathology and the patient is always sicker than any examination will reveal. *I know that some authors and some specialists will disagree with and attack this statement. It may be done here today. But I know also that some people never attempt to distinguish between a question of opinion and a question of fact. There was a time when the opinion stood unanimous, uncontroverted and unafraid, that the world was flat. She was just as round then as she is*

today! In a very large per cent of tuberculous patients, there either is or has been a time, when the patient could have gotten well. If the disease reaches a certain stage before detection and control, recovery is practically impossible. He may be patched up, but he will never be well. It is this fact that lends so much importance to the question of comparatively early and approximately correct diagnosis. And this is my reason for presenting to you a time-worn, much discussed subject.

*There are very few specifics in medicine. Specifics are few for any condition in life, which we might wish to change or remove. But as a specific for cocksureness and egotism in making a diagnosis, I can most cheerfully and confidently offer you the post-mortem table. It acts quickly and surely, but at times, it is humiliating and embarrassing.*

Realizing that my statements must be supported by something more convincing and reliable than mere opinions, I shall base them on autopsy findings.

The first proposition I wish to submit is this: *A physical examination of the chest will not and cannot reveal the presence of the first tubercle formed in the lungs.* And this is the beginning of tuberculosis. Why does this examination fail to show it? Simply because the original tubercle or small mass of tubercles is not large enough and does not cause change enough to interfere with the breath sounds or to change the conduction of the lungs. It is no larger than the head of a stick pin. There is not enough pressure and interference to change the respiratory murmur. The precussion note is not altered. Whispered voice is unchanged. Before there

\*Read before the 53rd Annual Session of the Arkansas Medical Society, El Dorado, May 1-3, 1928.

are any appreciable changes and therefore findings, the beginning of the process has passed onward.

The formation of the primary tubercle is the result of certain reactions of fixed tissue cells to the irritating substance thrown off by the tubercle bacilli. These reactions result in a cell proliferation which completely envelops and surrounds the germs. Thus the first tubercle is formed. If, at this stage, nature or the body cannot prevent the formation of other tubercles, the disease goes forward and later there is tuberculosis *en masse*.

*The second proposition to be submitted is that the x-ray will not show any shadows or anything else at this stage of the disease.* Before the x-ray picture can show any abnormal condition in the lung, there must be areas of sufficient density, or areas of changed density, to interfere with the uniform passage of the rays of light. Otherwise, the picture is negative for tuberculosis. Infiltration, proliferation, lymph and blood engorgement and many other conditions will show in a picture of the lungs; but these findings come as the disease progresses.

For the past few years in Kerrville we have been very fortunately situated for the study of tuberculosis. We have two sanatoriums. One has a capacity of eighty-six beds, the other has a capacity of five hundred beds. Studying together we have used every opportunity to follow our cases to autopsy whenever permission could be secured. When these autopsies were made, we had present the x-ray picture or series of pictures, together with the doctors' written interpretation. We had also the written physical findings and their assessments. Between the two we had the cold facts as revealed by the pathological findings in the lungs. In following this method of study and investigation the chances for error are minimized. The facts and deductions offered you today were gained from this method of observation. The cases to be submitted are concrete and the information and facts they supply appear worthy of acceptance.

You will not be bored with a long list of case reports as this is not deemed necessary. You will be offered enough to support the contention of this paper as the author sees it. The histories of the cases will be left out also, as they could have nothing to do with what

the doctor thought he found.

Case No. 1. This was a young lady twenty-four years of age. She was referred to our place with the blanket diagnosis of pulmonary tuberculosis. Our diagnosis was tuberculosis of the middle lobe and upper part of the lower lobe of right lung. Over this area there were persistent rales after cough. The respiratory murmur was granular and a little harsh. There was slight dullness and increased whispered voice. The upper lobe of the right and the entire left lung appeared normal. X-ray: There was mottling and what appeared to be areas of infiltration in the middle lobe and upper part of lower lobe. Upper lobe of right lung clear. Sputum positive.

The patient grew progressively worse from what appeared to be some other cause. We could detect no progression in the tuberculosis then or later. The alarmed mother, being very wealthy, wanted extensive and expensive consultation. Before the case was over, which was about three months, we had consultants all the way from Boston to the last meeting place of the National Democratic Convention. There was no disagreement in the diagnosis of tuberculosis and its extent. There was a lack of agreement as to the intercurrent trouble, which later produced death. For this reason the family insisted on a post-mortem, which was conducted by one of the best pathologists in the South. The last examination of this patient was made two days before death. This is mentioned to show that there could not have been much change in pathology between the time of the last examination and the date of death.

AUTOPSY REPORT: The cause of death was not tuberculosis so it will be left out of this report. The middle lobe and upper part of lower lobe of right lung showed disseminated areas of tubercles. In some areas there were caseation and beginning liquefaction. In the upper lobe of the right, near the center was a very small mass of tubercles we had not detected or even suspected. There were seven consultants in this case first and last. None of them found any trouble in the upper lobe. There was also a small discrete infection in the upper left just below the apex near the periphery. This had not been suspected.

AUTOPSY No. 2. Male, white, twenty-eight years of age. Diagnosis: Advanced, destructive, terminating pulmonary tuberculosis.



Both x-ray and physical examination indicated complete involvement of upper, middle and upper part of lower lobes of the right lung with a large cavity in upper lobe. Left lung indicated massive involvement of entire upper lobe with beginning softening, but no cavitation. Autopsy revealed large cavity in upper right lobe and caseation of the other parts of this lobe. Below the large cavity were numerous small cavities not previously discovered. The middle lobe was completely involved with caseation. The upper part of the lower lobe was a tuberculous pneumonia. Below this and extending down to the lower border were disseminated small tubercles that we did not find or suspect.

Case No. 3. The diagnosis based on physical and x-ray examinations was complete consolidation with caseation of upper and middle lobes of right. Left completely involved with three distinct cavities in upper lobe. The autopsy verified this diagnosis except there were four small cavities in the upper lobe of the right and disseminated small tubercles in the lower lobe. In addition to the revealed cavities in the left, we found numerous unsuspected cavities in the lower lobe. *In every autopsy held, we found the same revelation. There were present areas containing unsuspected tubercles and in areas of recognized disease there was more pathology than our examinations had lead us to believe.*

If the above reports do not support and prove the contention of this paper, then I am at a loss as to how it can be or should be done. These reports are presented without prejudice and in the spirit of seeking the facts. This information should drive home the idea that *absence of proof is not proof of absence.* If a patient is suffering from symptoms and we cannot find the cause, we have no right or justification in telling him there is no cause. Untold tragedies are wrapped up in the advice, "go on and forget it." If the patient is feeling bad and knows it; if he is substandard physically and knows it; if he tires easily, is nervous, irritable and indifferent to food, it is ridiculous and dangerous to the patient and to the doctor's reputation, to tell him that he needs a tonic and that he will soon be all right. *If you cannot find his trouble, tell him so. But tell him likewise there is something wrong and that for his safety you will keep him under observation. The time is passed,*

*not passing, when capable, dependable doctors are expected to make a diagnosis in ten or fifteen minutes. In some conditions it may take more than ten or fifteen days. Do this and the public will respect you and have faith in you for it.*

The first symptoms of tuberculosis are not local or lung symptoms. They are general and constitutional in their manifestation. They are toxic symptoms and the patient, as a rule, knows that something is wrong before the chest findings are patent. Keep this in mind and keep your patient under observation. If he feels bad and fatigues easily, if he is irritable and unstable from a nervous standpoint, if he recovers slowly and imperfectly from fatigue, disease or anything else, suspect tuberculosis. If these symptoms disappear and reappear, suspect it. *And if we cannot make a diagnosis, let us call for help. It is an embarrassing and a serious thing to tell a patient he has tuberculosis when he has not. It is not only a serious, but often a fatal thing to tell him he has not the disease when he has it.* Do not make the mistake of dismissing these patients or treating them with tonics. If you cannot make the diagnosis, seek consultation. Let us follow these ideas and suggestions, and we will have fewer mistakes to explain and fewer regrets to plague and harass us. And best of all, the patient, who is the answer to the whole program, will be protected and saved. Let me leave this with you as sound doctrine: *Symptoms with or without physical findings, need treatment. Physical findings without symptoms need to be watched.*

---

A life-sized bronze bust of the late Dr. HUNTER HOLMES MCGUIRE, Richmond, Va., was presented to Handley High School, Winchester, Va., on October 12th, by his son, Dr. Stuart McGuire, of Richmond, at special exercises held in the school auditorium.

The bust was unveiled by Miss Ann Tucker McGuire, daughter of Dr. Hunter H. McGuire, that city, and great-niece of the famous Richmond surgeon. The Rev. Dr. F. T. McFaden, of Loudoun Street Presbyterian church, and an intimate friend of the late Dr. McGuire, delivered the principal address.—*Richmond News-Leader.*



## THE TREATMENT OF ESSENTIAL HYPERTENSION\*

THOMPSON FRAZER, M.D., Asheville

Until comparatively recently, the medical profession did not consider the treatment of hypertension very seriously. The ideas that prevailed were, first, that hypertension was a conservative and compensatory process and should, therefore, not be interfered with; secondly, that treatment was useless, anyway, as no measures had any lasting effect on the level of the blood-pressure.<sup>1</sup>

With a better understanding of the causes of hypertension there has come about a change of attitude with regard to the treatment of this condition. We now believe that the height of the blood-pressure is usually too great for mere compensation and that it cannot, therefore, be regarded as a conservative process; we have learned that hypertension does not exist long before there are developed secondary changes in other organs; we have learned, too, that therapeutic measures do bring about results,—in lowering blood-pressure, relieving symptoms, postponing the development of complications, and in prolonging life. In order to achieve these results, however, we must treat the patient and not the hypertension directly; rule-of-thumb measures will not be successful, for hypertension is a condition of complex and variable etiology.

Although we still have much to learn about the causes of high blood-pressure, we may say that in many, if not in most cases, hypertension—and subsequent arterial disease—is an inherited tendency or constitutional state which is modified or developed by other factors. These are the “pressor” bodies or agencies, which by their action on the vasomotor nerves, cause a constriction of the arterial tree, increased peripheral resistance, increased blood-pressure, or arterial hypertension.<sup>2</sup> Among the agencies to which a pressor influence has been ascribed, may be mentioned infections, general or local; syphilis; intoxications, which may be divided into (a) *exogenous*, including excesses of food, of meat and extractives, tea, coffee, alcohol and tobacco; constipation; and (b) *endogenous*,

which includes metabolic disorders such as occur in gout and obesity, pregnancy, prolonged fatigue; endocrine disturbances of various types, with or without diminished blood-calcium content; the menopause.<sup>3</sup> Major thinks that guanadine may be an important factor. Intense application to one's business, the wear and tear of life, emotional strain may all act in a similar manner by stimulating the vasomotor set of nerves and producing increased tension.

Whatever may be the part played by these secondary factors, the conception that is gaining more and more adherents is that hypertension is a constitutional state in which the development of symptoms is progressive. O'Hare describes three stages: a *pre-hypertensive* stage, with symptoms appearing in the second decade; a *fluctuating* stage, in which the hypertension is intermittent; a *hypertensive* stage, in which the high level is permanently established, and which is the precursor of changes in the vessels, the heart, less frequently the kidneys.<sup>4</sup>

The pre-hypertensive stage is met with in childhood and early youth, and the symptoms are those of vasomotor instability, flushing of the skin, cold, moist hands, fainting spells, nose-bleed, migraine, nervous irritability.<sup>5</sup> In the fluctuating stage (early manhood), there are the symptoms of the preceding stage, *and in addition*, a somewhat rapid pulse, occasional nocturia and fatigue. The pressure is not very high and is only intermittently raised; as a rule, the systolic alone is affected. In middle life, the hypertension becomes established; the systolic may reach 200, the diastolic, 100 or over. It is at this period that we are consulted because of dizziness, headache, irritability and ready exhaustion, which are prominent symptoms. Secondary changes in the vessels take place, hypertrophy of the heart occurs, and the patient complains of a train of symptoms—palpitation, precordial pain or discomfort, dyspnea on exertion. Glycosuria is common.

The end results of hypertension may be *cardiac*—coronary thrombosis or congestive heart-failure; *cerebral*—increasing nervous irritability, vertigo, disturbed memory, cere-

\*Presented to the Tenth (N. C.) District Medical Society, meeting at Burnsville, October 17, 1928.

bral hemorrhage or thrombosis; or, less commonly, *nephritic*, with nocturia, fixation of gravity, nitrogen retention and uremia. Diabetes is not infrequent.

It is obvious then, if we wish to prevent the development of these complications, that we must institute treatment at the earliest possible moment. Time will not permit me to take up the subject of prophylaxis, of the training of children of hypertensive families, important as this is. I shall confine myself to a discussion of the treatment of established hypertension.

Specific cures there are none, as Mosen-thal well says,<sup>6</sup> and we shall be doomed to disappointment if we expect too much from the various measures that have from time to time been advocated, whether it be the use of low-protein diet, restriction of salt or fluids, the use of the dilators such as the nitrites, the relief of "intestinal intoxication" by drastic purgation, or the indiscriminate prescribing of endocrine bodies. And yet, the outlook need not be so pessimistic if we apply the knowledge we possess. As the level of blood pressure at any given time is the resultant of the condition of the heart-muscle, the viscosity of the blood, the extent of arterial thickening, and the degree of vasoconstriction, and as the only factor which can be influenced is the degree of vasoconstriction, the treatment of hypertension centres about this variable. This means that we must attempt to combat and to eliminate, so far as is possible, all agencies having a pressor influence.

The most successful approach is the psychological one, as Norris says;<sup>7</sup> for in so many cases it is one's tense mental attitude that stimulates the vasoconstrictor nerves and brings about the hypertension and, ultimately, vascular changes. The study of the case, then, begins with an inquiry into the patient's daily life and habits, his business and social obligations, the number of hours of work, of sleep, of recreation and outdoor exercise; and the most important step is for the hypertensive so to regulate his life that he secures sufficient relaxation. To accomplish this, he must, first of all, curtail his responsibilities; he *must* reduce the amount of work, mental and physical; he *should* take frequent vacations. An extra hour's sleep at night, resting in bed an hour after the midday meal, spend-

ing one day a week in bed—as on Sunday—will be beneficial. Time can be saved if at the beginning of treatment the patient is put to bed for a week or two; by this procedure, not only is the pressure reduced, but sleep is improved, fatigue disappears, the spirits rise, and the patient is at once encouraged.

After a period of rest, exercise should be taken up. This, however, must be prescribed in small doses at first, for many of these patients have led sedentary lives and are overweight. Walking is the best form, usually. Exercise should not be allowed to the point of exhaustion, nor should it be taken immediately after eating. If properly indulged in, and not overdone, exercise is beneficial not only by improving the circulation but because of the necessary absence from one's work which it entails, and from the mental relaxation and distraction afforded. When exercise cannot be taken, massage should be employed. It is most useful in such cases.

*Hydrotherapy.*—A prolonged warm — not hot—bath is sedative, and moreover, tends to decrease vasoconstriction and lower blood-pressure.

*Diet.*—The dietary restrictions advocated a few years ago are now regarded as unnecessary for the idea that proteins are harmful no longer prevails; while a very low protein diet induces anemia and physical weakness. McLester says: "The end products of protein metabolism are the same whether they come from milk, meat, eggs or cereal, and, gram for gram, the protein of meat imposes no greater burden upon metabolism than does that of milk or cereal." So that 75 gm. of protein daily should be allowed for metabolic requirements if there is no evidence of kidney impairment, and the patient should be permitted to choose the kind of protein that he finds most agreeable.<sup>8</sup>

Insurance examinations have shown that three-fourths of the applicants who are 20 per cent overweight have also an increase in blood-pressure, so that a restriction of fats and carbohydrates is often indicated, as it is these foods which are the main sources of obesity. In many cases, indeed, a reduction of weight is as important as any other measure; and with moderate food restriction, the weight can gradually be brought down one to three pounds a week and at the same time there will be a great improvement in the gen-

eral condition as well as a decrease in the blood-pressure. All highly spiced foods which tempt the appetite should be avoided, but otherwise the hypertensive should be allowed a fairly liberal choice. Coffee and tea may be taken in moderation. This applies to tobacco also. Alcohol tends to stimulate the appetite, it also has a certain food value, so that many physicians think its use should be forbidden; it must be remembered, however, that the induction of a tranquil state of mind as the result of its sedative action may make alcohol a valuable adjunct in certain cases. Glycosuria, if present, demands special treatment.

**Salt Restriction.**—The "salt-free" diet as advocated by Allen<sup>9</sup> has been superseded by the "salt-poor" diet, in which no salt is added to the food after it comes to the table; though Mosenthal says that salt, even in amounts of ten grams daily, does not raise the pressure in hypertensives. He points out, however, the value of salt limitation where there are heart symptoms such as palpitation, dyspnea, cardiac pain and edema.

**Fluids.**—Limitation of fluids as practiced until recently is now believed to be undesirable, for it has been found that if the urinary output is too low—below 1200 c.c.—it tends to cause nitrogen retention; moreover, it has been demonstrated that fluid taken in amounts of six litres daily does not influence the blood-pressure. To secure proper elimination from kidneys and bowels, therefore, the patient should be encouraged to drink water freely, two to three litres daily.

**Purgation.**—Violent purgation is another measure that has been relegated to the past. Moderate catharsis by means of a saline once or twice weekly is indicated, not alone to eliminate bacterial and other toxins from the intestines, but to prevent the straining at stool which is so commonly the direct cause of apoplexy.

**Removal of Foci of Infection.**—This is the most neglected part of treatment and, although the relationship of infections to hypertension has never been established, foci of infection are, as Foster says, "obstacles to the return of full health."<sup>10</sup> We must not, however, expect to accomplish spectacular results in a hypertension of long standing.

**Drug Treatment.**—Of the countless drugs that have been used in the treatment of high

blood-pressure there are but few that are now employed, and these only for special indications; in fact, the aim of treatment is to attack the condition indirectly by the regulation of the patient's life rather than to attempt immediate reduction of the blood-pressure. The nitrites—amyl nitrite, sodium nitrite, erythrol tetranitrate, nitroglycerin—are seldom employed because of their transient effect, unless for an emergency such as angina pectoris or nocturnal dyspnea.

Among the most valuable drugs are the bromides. Whether there is a direct sedative action upon the vasomotor mechanism is problematical, but by enabling the patient to relax physically, and by quieting restlessness, bromides do actually reduce blood-pressure. Too large doses should not be given; usually ten or fifteen grains three times daily will suffice. Bromides should be taken well diluted and at least an hour after meals, and they should be discontinued on the appearance of symptoms of indigestion. Chloral hydrate is another drug which is useful in promoting relaxation; the newer sedatives such as dial and luminal act similarly. The iodides are of value in certain cases even where there is no syphilitic history; frequently, however, they seem to be without effect. Potassium sulphocyanate has its advocates.<sup>11</sup> The results from the use of atropine and calcium chloride have not been striking.<sup>12</sup>

**Organ Extracts.**—The attempt to overcome excessive vasoconstriction by parathyroid has not been successful. The use of liver extract is still in the experimental stage; it gives promise of being a valuable adjunct. The ovarian preparations are useful in menopausal cases.

**Treatment of the Heart.**—We have seen that hypertension is a condition which sooner or later brings about secondary changes in other organs. "The outstanding organ which bears the greatest burden of the advancing attack is the heart," as Paullin puts it,<sup>13</sup> and we must be on the alert to recognize symptoms of cardiac embarrassment and to institute proper treatment at the earliest moment. High blood-pressure is no contraindication to the use of digitalis, and, fortunately, the heart muscle in these cases is capable of response for a considerable period even though signs of congestive failure have developed.



## SUMMARY

Hypertension is a disorder which is progressive and which, if unrelieved, tends to hasten the development of serious complications.

The object of treatment is to lessen vasoconstriction; and the best results are obtained by a regulation of the patient's daily life, by reduction of weight where necessary, by the use of certain drugs, and by supporting the heart if there are symptoms of failing compensation.

## REFERENCES

1. Considerations on the Treatment of Essential Hypertension. S. F. Adams and G. E. Brown, *Annals of Clinical Medicine*, May, 1927.
2. Further Clinical Studies in Essential Arterial Hypertension. Smith and Liggett, *Med. Clinics of*

North America, Sept., 1927.

3. Hypertension. Post and Stieglitz, *Amer. Jour. Med. Sc.*, May, 1926.

4. Treatment of Hypertension. J. P. O'Hare, *Amer. Heart Jour.*, June, 1927.

5. The Signs and Symptoms of Hypertension. W. R. Ohler, *Amer. Heart Jour.*, Aug., 1927.

6. The Treatment of Essential Hypertension. H. O. Mosenthal, *Jour. A. M. A.*, Sept. 8, 1928.

7. Blood Pressure. G. W. Norris.

8. The Causes and Treatment of High Blood Pressure. J. S. McLester, *Amer. Jour. Med Sc.*, November, 1926.

9. Arterial Hypertension. F. M. Allen, *Jour. A. M. A.*, March 6, 1920.

10. Treatment of Hypertension. N. B. Foster, *Jour. A. M. A.*, Sept. 30, 1922.

11. The Incidence and Management of Hypertension. L. T. Gager, *Jour. A. M. A.*, Jan. 14, 1928.

12. Action of Atropine and Calcium and Parathyroid Preparations in Arterial Hypertension. Altnow and O'Hare, *Ann. Inter. Med.*, Dec., 1927.

13. Complications of Hypertension. Paullin, Bowcock and Wood, *Amer. Heart Jour.*, Aug., 1927.

## SPEAKING OUT FOR THE COUNTRY DOCTOR

From an Editorial in *The Ohio State Medical Journal*

As a result of the exodus of physicians from the country to the city, the balance of power in the county societies has shifted from the former to the latter. As a result, when plans are being made, the taste of the urban members frequently prevails in selection of speakers and subjects, their convenience is principally considered when the hour is set, and from their number the officers are largely chosen. The town men know each other better and have a greater number of common interests; hence the rural members may feel more or less neglected. Committees are apt to be made up from the town list because it is more convenient to get together. The programs drift away further and further from the interests of the rural physician. As a result, the county society ceases to supply his needs, and his attendance becomes irregular and occasional.

Yet the middle-aged man practicing in a remote district is the one physician in the state in most need of participation in organization activities. He it is who most needs the stimulus of contact with fellow-members. He it is who makes the greatest sacrifice to attend meetings. He it is who, if properly encouraged, gives the most loyal and unselfish type of service to his county society.

That the town and city physicians do not

realize how thoughtless they are in placing hours of meetings, let us say, at 8:30 or 9 in the evening, cannot be doubted. This is after their own day's work is over, and they are free to enjoy the program and social hour following it. Why not at least make a fifty-fifty compromise and hold half of the meetings in the daytime when driving is safer and roads are more pleasant?

The doctor practicing in the country is usually overworked, and now usually past middle age. He cannot be criticised if he fails sometimes to keep abreast of the latest advances in medical and surgical technique. He needs the kindly interest and sympathy of his urban confreres.

The country doctor has, indeed, a message for the city doctor as well as the reverse. If this thought could only be impressed upon the hearts and minds of *all* members—those in large cities, towns, villages, and open country—how far might it not go toward a solution of the problem of supplying our outlying sections with better medical service!

THE AMERICAN COLLEGE OF SURGEONS, at its recent meeting, elected U. S. Surgeon-General Merritte W. Ireland president, to become effective next year at the expiration of the term of Dr. Franklin H. Martin. Dr. William W. Pearson, of Des Moines, Ia., and Dr. Perry G. Goldsmith, of Toronto, were elected vice-presidents.



## THE COLLOIDAL LEAD TREATMENT FOR INOPERABLE CANCER\*

ERNEST S. BULLUCK, M.D., F.A.C.S., Wilmington

The investigations of Blair-Bell indicated that the frequency of abortions in workers in lead was due to the action of this substance on the cells of the embryonic chorion. Chorionic cells simulate those of cancer more than any type of cells that are known to be normal. Assuming a specific toxicity for undifferentiated cells colloidal lead was injected into the blood for the destruction of neoplasms.

Cancer is here considered the result of cell starvation. The cells, for reasons unknown, are unable to oxidize sugars. To escape starvation they revert to the ancestral type, the embryonic cell, and regain the power of glycolysis—the direct splitting of sugars with the formation of lactic acid, this acid being found in all malignant tumors.

*Physiological Action of Colloidal Lead.*—The blood deposits the lead in all the tissues, particularly in the liver, spleen, bone marrow and neoplasm. The cancer content is high because of abundant blood supply and the inability of the atypical cells to ward off the noxious particles. Irritation of the capillary endothelium causes swelling of these cells resulting in capillary thrombosis. This mechanically interferes with the nutrition of the neoplasm and lowers its resistance. Ultimately the lead is deposited in the intercellular spaces. After about two weeks it undergoes slow ionization and passes through the cell membrane. In the cell the lead combines with the phosphates and emulsifies the lecithin of the nucleus. This causes permeability of the phosphates and leads to autolysis and absorption. The same effect is produced upon the normal cells, but they are more resistant than the atypical, susceptible cells of cancer. The object is to so gauge the dosage that it will be lethal for cancer and sublethal for normal cells.

*Preparation of the Lead.*—Elementary lead

is rendered colloidal by a difficult and complicated sparking process, using the Bredig arc. The lead particles are so small that they are visualized only with the ultramicroscope. The preparations are variable and unstable, lasting only a few days; then they form aggregates or masses. After clumping the product is highly toxic and should not be used. An American manufacturer has been licensed to sell colloidal lead.<sup>1</sup> The maker claims this product to be more stable than the original and to be protein-free, therefore less liable to produce anaphylaxis. It may be obtained in ampoules containing 50 mg. in suspension ready to inject. The dose is 100 mg. intravenously, repeated six times at two-week intervals. After a few months this series may be repeated.

*Systemic Effect.*—The systemic effect is violent. A severe chill followed by high fever, headache, malaise or prostration is common. Later there may be jaundice, stomatitis and development of the lead line; albuminuria and casts. The blood is particularly affected.

There is no leucocytosis. The hemoglobin may fall to 20 or 30 per cent with anisocytosis, normoblasts, stippling and polychromatophilia. Two or three stippled cells to the field indicate that the blood tolerance to lead has been reached. Although the treatment is drastic, only one death has been attributed to this cause. The injury to the blood and organs is transitory and they return to normal when the injections are discontinued. During the treatment the anemia is combatted with blood transfusions, one or two between injections. These serve to keep the hemoglobin up to 50 or 60 per cent.

*Contraindications.*—Very advanced cases are not suitable for treatment. Patients with cachexia, exhaustion or renal disease react poorly. Fat persons will tolerate larger doses. The treatment should not be used when there is cerebral or pulmonary metastasis. It is of doubtful value in bone tumors. The effect is more favorable in small tumors than in large ones. Slow growing epitheliomas and glandular tumors are little effected. It is in the

\*Presented by invitation to the Fifth (N. C.) District Medical Society, meeting at Sanatorium, October 10, 1928.

1. Loeser Laboratory, 22 W. 26th St., New York.

fast growing carcinomas and sarcomas that the best results are obtained.

*Value of the Treatment.*—This treatment originated in the clinic of Dr. Blair-Bell at the University of Liverpool. The studies were carried on with the collaboration of chemists, physiologists, pathologists and surgeons. The cases were carefully selected and every precaution taken to avoid error in diagnosis. They were subjected to operation and tissues removed. In some instances tissues were removed at intervals during the treatment. Until recently no reports were issued. Since 1921 two hundred and twenty-seven cases have been treated. Of this number 50 are considered to have been cured from one to five years. Twenty cases have remained cured for five or more years. The only carefully conducted lead work in this country has been done by Dr. F. C. Wood, of the Crocker Institute for cancer research. His articles may be summarized as indicating that about 80 per cent of cancers are unaffected, in 20 per cent the action is favorable and in 5 to 10 per cent a complete cure may reasonably be expected. The author has treated four such cases; three with Ochsner's colloidal gold (the only colloidal metal available at that time in this country) and one with the new colloidal lead. The recommended dose of the gold is small and produces no reaction. All of these patients died. The fourth has been treated six months for complete involvement of one lung, some ribs and invasion of the axilla, by sarcoma. The Blair-Bell technique was used. The lung shows actual regression of the growth, showing even if temporary that the growth has been favorably affected.

Lead may prove of value as a prophylactic after surgical removal of tumors. Unrecognized metastases might be destroyed in this manner. Lead is a valuable adjunct to the x-ray treatment of cancer. Six erythema doses will destroy the cells of carcinoma; but the problem has always been that the overlying tissues will not tolerate the passage of this much radiation. With the tumor permeated with lead, x-rays striking the metal rebound and set up secondary and tertiary rays. This increases the actual amount of radiation received by the tumor. In addition, the cancer cells, debilitated by the effect of the lead may be rendered more vulnerable

to the radiation. It is hoped that these combined effects may do what each falls just a little short of doing.

It must be thoroughly understood that this treatment is not a substitute for surgery. The tumor should be removed as completely as possible. This is one small chance for the hopelessly inoperable. Most important questions are:

Has one patient been actually cured?

Can the results be duplicated?

Can a better preparation be developed?

Can a new and more effective agent be found?

The present treatment has been protected from premature enthusiasm or exploitation. It rests upon as firm scientific foundation as did arsphenamine at the same stage of its development. For years evidence has accumulated to show that cancer may result from some external agent rather than a cell rest. We are all convinced that substances may be injected into the blood and kill bacteria without injuring the somatic cells.

A recent visit to the leading hospitals of Boston and New York and information from hospitals in other medical centers leads to the conclusion that the lead treatment has never been given a clinical trial in this country.

An unusual opportunity is offered the practitioner who wishes to enjoy the thrill of cancer research. No special institutional equipment is required. No harm can be done to the patient, without this treatment his doom is sealed. If every case of inoperable cancer were so treated it is reasonable to expect that a certain small percentage would be completely cured. With experience and the addition of radiation perhaps the result would be even better.

Bulluck Hospital.

#### BAM

There is nothing remarkable in the fact that a Swedish surgeon sings while he is operating. Seeing he has all the best of the situation, why shouldn't he sing?—*Philadelphia Inquirer*.

Prohibition will not be working perfectly as long as it is necessary to explain under the picture of the candidate on his fishing trip that it's water in the jug.—*Ohio State Journal*.

London scientist's theory that motor-cars eventually will deprive the human race of the use of its legs takes no notice whatever of the increasing agility of the pedestrian.—*Arkansas Gazette*.

## STUDIES IN SPINAL ANESTHESIA\*

R. B. MCKNIGHT, A.B., M.D., Charlotte

Spinal anesthesia is produced by temporarily destroying the conductivity of the nerve roots within the spinal cord by an anesthetic introduced by means of spinal puncture. Bier, in 1899, using cocaine, induced anesthesia in himself, his assistant and six patients. Widespread use of this method of anesthesia rapidly followed in spite of his warning of danger; with equal rapidity it was abandoned because of dangers of its use, which promptly revealed themselves.<sup>2</sup>

With the introduction of local anesthetics of less toxicity, such as stovaine, apothesine, tropocaine and—especially novocaine (procaine), spinal anesthesia has come into more extensive use, some having used it in thousands of cases with most gratifying results. With a more careful selection of cases and improvements in technic, the dangerous features have largely been eliminated. The fact remains that once the solution is injected, control of its action is almost entirely lost. The most feared untoward feature has been a sharp drop in blood pressure, which sometimes occurred and not infrequently with alarming and serious results. Epinephrine offered some hope in combatting this fall. The trouble is that the action of epinephrine in elevating systemic blood pressure is fleeting. In a recent paper I referred to spinal anesthesia as having great possibilities, and, in view of the recent work of Chen and Schmidt, that further experimentation with ephedrine might lead to a technic which would make spinal anesthesia safer and more widely used.<sup>3</sup>

How frequently have we heard the expression, "Spinal anesthesia is an ideal form of anesthesia, but I am afraid of that fall in blood pressure!" The fall in blood pressure is dependent chiefly on two factors: an improper anesthetic drug and the injected solution extending too high in the spinal canal. Pitkin has contributed an important and valuable piece of work on this problem.<sup>5</sup> He has prepared a solution for spinal injection which has significant features in that (1)

the drug ephedrine has been utilized to combat the marked fall in blood pressure which may occur, (2) the specific gravity of the solution has been so altered that it is of a lesser specific gravity than the spinal fluid, thereby permitting control of the level of the anesthesia, (3) the incorporation of a colloid solution has been effected so that there is slight mingling with the spinal fluid, and (4) novocaine—the least toxic of the efficient local anesthetic agents—has been used to produce anesthesia. These features contribute to the preparation of a solution which brought be called an ideal anesthetic for operations involving structures below the diaphragm, provided a careful and deliberate technic is used in its administration.

Ephedrine is the active principle of the Chinese drug *ma huang*. Its action as a circulatory stimulant has been known to the Chinese for five thousand years. Recently Chen and Schmidt,<sup>1</sup> working in the Pharmacological Laboratories at Peking Medical College, investigated this drug and found its physiological effects to be similar to those of epinephrine and much more prolonged. Blood pressure is maintained by stimulation of the cardiac accelerator mechanism and by constriction of blood vessels supplied by vasoconstrictor nerves. It has a decided advantage over epinephrine in the greater persistence of its effects.

Pitkin's preparation is marketed by the H. A. Metz Laboratories under the trade name "spinocain." There are two ampoules to be used in each case. For the sake of simplicity I refer to them as Solution I and Solution II.

Solution I contains 1 per cent novocaine for local skin anesthesia—permitting painless introduction of the spinal puncture needle—and 5 per cent ephedrine for the prevention of too marked fall in blood pressure. Solution II is composed of 200 mgm. of novocaine—the anesthetic agent, 2.2 mgms. of strychnine sulphate which acts as a direct stimulant to the vasomotor constrictors, inhibits action of the anesthetized nerves and stimulates the unaffected nerves. The novocaine

\*Presented to the Seventh (N. C.) District Medical Society, meeting at Lincolnton, October 8, 1928.



and strychnine are made up to 2 c.c. by the addition of alcohol, starch paste and normal saline. The alcoholic content is 14.5 per cent; this gives a lesser specific gravity than that of the spinal fluid. Fairly accurate control of the level of the solution in the canal may be attained by raising or lowering the head of the operating table; obviously this controls the level of the anesthesia. The starch paste being a colloid solution, prevents undue mingling with the spinal fluid.

**Equipment.**—The equipment is simple and inexpensive. In this series of cases I have used: One 2 c.c. Luer "lok" syringe, one Pitkin 22 gauge spinal puncture needle—the point of which is ground off to a taper of 45 degrees, a 1 c.c. hypodermic syringe and a 25 gauge one inch needle, and the two ampoules of spinocain. Ether for cleansing the skin of its fatty constituents, iodine and alcohol for sterilization, sterile towels for draping and sterile gloves complete the armamentarium.

**Technic.**—In addition to the usual preparation for operation, morphine sulphate gr. 1/6 with scopolamine hydrobromide gr. 1/200 are given hypodermatically in two doses one hour before, and immediately before the patient is brought to the operating room. The patient is placed on his right side, preferably with the head of the table lowered about 5 degrees, with the thighs flexed and the head and neck forward so as to cause the backed to be bowed out. The skin is prepared and the field draped as for any operation. I have selected the interspace below the tip of the twelfth dorsal or first lumbar spine as the site for injection. The skin is made taut with the index and middle fingers of the left hand and a wheal made with the hypodermic needle, using 0.5 c.c. of solution 1. Without withdrawing the needle it is carried vertically downward toward the interspinous ligament, and the remainder (0.5 c.c.) of the solution injected. The needle is then withdrawn and discarded. The spinal puncture needle is next inserted at right angles to the long axis of the spine. When the dura is punctured, a slight snap is felt and the needle is advanced about 2 mm. further. On withdrawing the stylet clear spinal fluid should flow through the needle. If bony resistance is felt, or, if blood emerges through the needle, it should be withdrawn, the stylet

replaced and insertion made at a different angle. When clear spinal fluid flows through the needle the anesthetic may be administered. I allow spinal fluid to escape in quantity about equal to half that which is to be given of solution II. If 2 c.c. are to be administered then 15 to 20 drops of spinal fluid are removed. The solution which has been drawn into the Luer "lok" syringe is slowly injected. Without detaching the needle the syringe is half refilled with the solution and spinal fluid and slowly reinjected. The purpose in doing this is to allow the solution to mix with the spinal fluid and increase the volume sufficiently to completely surround the cord at the point of injection. The spinal fluid is allowed to escape so as to prevent excessive intradural pressure. It is important that no more be allowed to escape than will be replaced by the solution. It is wise to keep the head of the table lowered about 5 or 10 degrees to confine the solution to the lower part of the canal. The needle is then rapidly withdrawn and a piece of adhesive applied over the puncture wound. The patient is turned on his back and the field of operation prepared. Should anesthesia not be complete in about ten minutes the head of the table may be raised, but lowered to 10 to 15 degrees as soon as the required level of anesthesia is reached. Sometimes anesthesia will be complete on one side and only partial on the other. In such instances the needle has entered the dura at an angle. The patient should be turned on the anesthetized side for a few minutes, and soon anesthesia on the delayed side will be complete. A deliberate unhurried technic is absolutely essential for a successful anesthesia. (The technic described is the one followed by me, and is to a large extent that described by Pitkin.<sup>5</sup>)

TABLE I

<i>Types of Operation (Major Procedure)</i>	
Appendectomy	3
Appendectomy and drainage	3
Appendectomy and myomectomy	2
Suspension of uterus	2
Herniorrhaphy	1
Herniorrhaphy for strangulated inguinal hernia	1
Suprapubic prostatectomy	1
Suprapubic cystotomy	1
Left ureterolithotomy	1
Reduction fracture femur	1
Wilson fusion operation left hip	1
Abdominal hysterectomy	2
Intestinal resection	1
Perineorrhaphy and repair of anal sphincter	1
Salpingo-oophorectomy	3



Removal ovarian cyst .....	1
Dissection inguinal glands .....	1

TABLE II  
*Anesthesia*

Satisfactory .....	23
Fair .....	2
Poor .....	0
Necessarily combined .....	1
Post-operative effects .....	

	Nausea	Emesis	Gas
None .....	13	15	—
Slight .....	12	11	25
Marked .....	1	0	1

TABLE III  
*Average Blood Pressure*

Before operation	
16 cases .....	112/76
4 cases .....	174/99
16 cases .....	118/70
4 cases .....	117/65

With the possible exception of one case there was no evidence of fall in blood pressure on the operating table. Those pressures observed during the course of the operation showed with no exception an initial rise after injection of the solution.

Observations were made on the blood pressure, pulse and respirations immediately before giving the anesthetic and immediately following closure—and in some instances every five to ten minutes during the course of the operation. The degree of anesthesia, both as to pain and relaxation, is charted on a basis of plus four as being perfect. Water was given by mouth freely during the course of the operation or as soon afterward as the patient wished. Post-operative developments, which may or may not be attributed to the anesthetic, are classified under nausea, emesis and gas.

#### DISCUSSION

An ideal anesthetic may be defined as one possessing six cardinal advantages: (1) comfortable induction, (2) complete insensibility to pain, (3) maximal relaxation, (4) minimal toxicity, (5) safety, and (6) absence of untoward post-operative effects.<sup>3</sup>

Spinal anesthesia can be induced with no discomfort by moderate narcosis, local anethetization of the skin preliminary to the introduction of the needle, the elimination of unnecessary noise and talking—which, incidentally, should never occur in a well conducted operating room—and every attention to the patient's comfort such as: a proper position on the table, the ministrations of a good nurse, ice compresses to the forehead. In each case in this series induction was entirely comfortable with the exception of two, in which there were complaints of shooting pains in one leg. One of these was an

eight-year-old boy, and the old-fashioned long-beveled needle was used. (Puncture of a nerve is liable to be a frequent occurrence when using a long-beveled needle. It is not a serious complication.) In two cases not included in this series, spinal anesthesia was intended but not induced. In one, after trying for half an hour, I was unable to get into the spinal canal; in the other, after entering the canal with difficulty, there was an undue amount of blood in the spinal fluid which I could not get rid of, so I thought it best not to introduce the solution, but to give a general anesthetic.

Insensibility to pain was complete in every case with the exception of one and the possible exception of another. This patient complained of pain on attempting to pack off the intestines preliminary to going into the abscess mass. Accordingly the operation was completed under very light ether. Questioning her later, she replied: "I guess it was nervousness, as I do not remember having any actual pain." Interestingly enough, considering her operation, she had no vomiting, some nausea and a moderate amount of gas subsequently. In another case anesthesia was complete on the left side, but only partial on the right. He stood the operation suffering some pain. At the end of operation anesthesia was complete. In several cases anesthesia was delayed longer than usual. Tilting the head of the table upward brought about the desired results.

Relaxation was complete in practically every case, one case excepted. One patient was a negro with the most powerfully muscled abdominal wall I have ever seen. He had some muscular rigidity during the entire course of the operation—which was short. I attribute the relaxation to other factors in addition to the action of the anesthetic agent. The members of the cocaine group show a definite selective action on sensory nerves, the action on the motor roots being delayed.<sup>6</sup> No doubt insuring a comfortable position on the table and the narcosis, were as important factors in bringing about relaxation as the action of the novocaine itself—certainly in the earlier stages of the operation.

The safety of the drug—in other words the absence of any untoward physiological effects—during operation, deserves special con-

sideration, since therein is found the reason for fear as to the safety of spinal anesthesia.

It is interesting to note that the most marked fall in blood pressure occurred in those cases which had a preliminary systolic pressure of over 160 mm. of mercury. In only one of these cases was there any clinical evidence of such fall in the time intervening between administration of the anesthetic and the completion of the operation; this manifestation came after fifteen minutes had elapsed. Two patients showed some evidence of a fall when the patient was returned to bed. This was at once overcome by allowing the head of the bed to be lowered. Six patients showed a slight rise in pressure, while in the others the pressure was the same after operation as before, or slightly lowered—no more than could be readily accounted for by factors other than the anesthesia. In only one case in the entire series were there any symptoms of a fall in pressure during operation, and that was slight. The fall in blood pressure with alarming symptoms occurs usually within ten or fifteen minutes after administration. Diastolic pressure was approximately proportional to the systolic throughout.

Fourteen of these cases were my own and I assisted in most of the others, so it was possible to make but few observations on blood pressure, pulse and respirations during the course of the operation. Those I did take, however, showed with no exception, an initial rise, with an acceleration of the pulse following induction of anesthesia. This can be accounted for by the action of the ephedrine. A danger signal of falling pressure is a slow pulse.

Fall in blood pressure may be attributed to an improper anesthetic drug producing undesired and intense pharmacological action, or, more usually, to the solution extending too high in the spinal canal. This effect is not due to action on the medulla, but to paralysis of the splanchnic fibres in the thoracic cord.<sup>6</sup> There are three splanchnic nerves (rarely a fourth) which consist largely of medullated fibres which are direct continuations of the white rami from as far up as the third, and as low down as the last, dorsal nerves.<sup>4</sup> Most of the fibres in these nerves come from the higher roots. When the anesthetic extends too far up, a paralysis of these nerves inevitably must follow with a dilatation of the

vessels supplied by them and a resulting fall in blood pressure. The action of the ephedrine, and to a less extent that of the strychnine, on vasoconstrictor nerves, tends to combat any fall attributable to the novocaine extending too high and involving too many fibres making up the splanchnics. Another contributing cause to a blood pressure drop in this series might be laid to the action of the scopolamine, which sometimes even in small doses may cause a marked fall in blood pressure.<sup>6</sup> The greatest fall in the series, from 166/98 to 98/40, occurred in 50 minutes. This patient had morphine gr.  $\frac{1}{2}$  and scopolamine gr.  $\frac{1}{150}$  immediately before operation. There was no clinical evidence of fall during operation; furthermore, a drop in pressure due to the action of the novocaine is not liable to persist that long. It is probable that this fall was due to the action of scopolamine, and this is further supported by the fact that scopolamine in small doses (gr.  $\frac{1}{300}$  to gr.  $\frac{1}{75}$ ) may cause cardiac and respiratory collapse.<sup>6</sup> It would have been interesting to have known what this patient's pressure was during the operation.

There were no appreciable variations in pulse and respiration which could be attributed to the anesthetic.

The most interesting study in this series has been that of the post-operative effects interpreted in terms of nausea, vomiting and gaseous distention. Naturally some degree of gas is to be expected after any operation regardless of the type of operation or the anesthetic used. I have interpreted a minimal amount of gas as 1. In thirteen cases there was neither nausea nor vomiting. Seven others had such a minimal amount that they can well be placed in the list of approximately perfect ideal anesthetics. In no case in the series was there anything like the usual distress from these symptoms. Most of these patients were questioned concerning their opinions of the anesthetic. One patient complained of a little residual soreness in his left leg. Another said he had some pain but was glad he did not have to take ether. Several had had previous operations under ether. All these replied that in case they had to have another operation they would never take ether again if they could avoid it.

Two patients in the series died; one thirty hours after operation and the other eleven

days subsequently. In neither case could death or any contributing cause of death possibly be ascribed to the anesthetic. Anesthesia was perfect in each. Both were exceedingly poor surgical risks.

The controllability of the level of the solution, as particularly stressed by Pitkin<sup>5</sup>, is well illustrated by five cases, in three of which there was no anesthesia in the line of the proposed incision until the head of the table was elevated, thereby allowing the solution to extend higher up in the canal. As soon as this was done anesthesia was complete. In two—assuming that the respiratory difficulties were caused by the solution extending too high—and this may have been the case—relief was afforded within a few minutes after lowering the head of the bed, thereby allowing the solution to flow down the canal.

#### CONCLUSIONS

1. The safety and reliability of ether in the majority of cases is not to be questioned, yet we all know that it is the 24-48 hours after operation which the patient dreads more than the operation itself. Again, we are only too well acquainted with the dangerous respiratory and gastro-intestinal complications which not infrequently arise—especially after a prolonged etherization. The newer inhalation anesthetics only partially eliminate these distressing sequelae; spinal anesthesia completely eliminates them.

2. My series of cases bears out the contention of others who report a much larger series, that it is a safe anesthetic. It would seem that the dangers of an excessive fall in blood

pressure with alarming symptoms are eliminated by using Pitkin's solution.

3. The induction is not difficult. I would not leave the impression, however, that it is fool-proof. It certainly is not. With a proper technic, anyone doing surgery should be able to use it.

4. Spinal anesthesia certainly predisposes to a more careful operative technic. A cause of failure in many cases of any type of regional anesthesia is rough handling of structures. Sometimes all of us are forgetful enough to make such a break in technic, which, indeed, has no place in a careful surgeon's operating room. We are not so prone to do this if the patient is awake and talking to us—or to an attendant.

5. Spinal anesthesia offers the nearest approach to an ideal form of anesthesia.

6. I believe that in a few years spinal anesthesia will largely supplant inhalation anesthesia, particularly so in abdominal, pelvic and lower extremity surgery.

#### BIBLIOGRAPHY

1. Chen, K. K., and Schmidt, C. F.: The action of ephedrine, the active principle of the Chinese drug *ma huang*. *Jour. Pharmacol. and Exp. Ther.*, 1924, 339-357.
2. Meeker, W. R.: Spinal anesthesia. *Lewis Practice of Surgery*, Vol. 1, 1928. W. F. Prior Co., Hagerstown, Md.
3. McKnight, R. B.: The choice of an anesthetic with special reference to regional anesthesia. *Jour. S. C. Med. Assn.*, 1928, 24, 90-95.
4. Piersol, G. A.: *Human Anatomy*, 4th Edit., Vol. 2. Lippincott, Philadelphia, Pa.
5. Pitkin, G. P.: Controllable spinal anesthesia. *Jour. Med. Soc. of N. J.*, 1927, 24, 425-438.
6. Sollmann, T.: *A Manual of Pharmacology*, 2nd Edit., W. B. Saunders Co., Philadelphia, Pa.

#### EXCUSES TO MAKE WHILE LOOKING FOR A LOST GOLF BALL

(In the order of their appearance among mankind.)

"It isn't the ball I mind. But I hate to lose a stroke."

"We might just as well slow up a bit. We've been hitting it up too fast anyway."

"That's one of the balls my wife gave me for Christmas. I'd hate to lose it. Sentiment, you know."

"That was my luck ball. Always drive the water holes with that one and she never goes in. Gosh, I've got to find that baby or I'm jinxed."

"There's a foursome and a threesome slowing us up. Might as well stop and hunt for it."

"It makes me sore, y'understand, because I saw it and marked it by this bush. No ball is gonna hide on me. I'll find it now anyway!"

"You know, it tests the mettle of a *real* golfer, having to shoot out of the muck. I'm just going to find this baby and show 'em I can pop 'em out of the rough with the best of them."

"S'funny things about me. Never can bear to lose anything like a button or an elastic band or a golf ball. I can drop a thousand in the stock market and never think about it. But a tricky little thing like a golf ball getting lost makes me wild. Just as soon buy a dozen and throw 'em away. But when I hit one I want to keep hitting it."

"Well, so long as Bill is in the rough, I'll just scout around a little while he's getting out of trouble."

"Women never see where a ball goes. But a man ought to know where he shoots 'em. Now let's see, it came over that tree on a line with the flag."

*Mary Irving Shumway.*



## DISCUSSION OF SOME OF THE ACUTE INFECTIONS OF THE BRAIN\*

A. A. BARRON, M.D., Charlotte

The majority of us are loath to inform ourselves concerning diseases of the central nervous system whether they be acute or chronic. This is rather singular because when we analyze our work we find that a large percentage of it deals directly or indirectly with this part of the anatomy. During the next few months (the winter months) we will naturally come in contact with quite a number of acute infectious diseases that involve the brain. An early diagnosis often saves a life.

We may classify the acute infectious diseases of the brain under two headings—the suppurative and the nonsuppurative or inflammatory. In the acute infectious diseases of the brain, the clinical features are often complex. The brain and its coverings are so closely related that a marked process rarely remains restricted to one or the other anatomical structures, so frequently the picture varies as the disease extends or as complications arise.

Naturally, in considering the acute diseases, we think of encephalitis, chorea, poliomyelitis and brain abscesses as being some of the more common. The various types of meningitis, such as the tubercular, the syphilitic, the cerebro-spinal, are not to be considered in this discussion.

At the present time the nature of the infecting virus in the majority of inflammatory conditions can not be regarded as established. A large number of distinct specific poisons may give rise to encephalitis. It is probable, and the same is applicable to poliomyelitis, that the infecting virus gains access to the nervous system through the naso-pharyngeal mucosa.

Acute cases of encephalitis, as is commonly known, apparently follow influenza infection. In some cases signs of intracranial pressure, such as choked disc, etc., arise to complicate the picture. In other cases, as in one seen a few days ago, Jacksonian attacks may occur and tend to throw us off our guard. Symptoms suggestive of a polyneuritis may occur

and the patient complain of pains in various parts of the body. Meningeal symptoms may arise.

Some little time ago I saw a very instructive, illustrative case of encephalitis that terminated with symptoms of a meningo-encephalitis. This case is striking as it shows the necessity for recognizing and respecting an infection even when for a time it appears mild. This necessitates an observation of your patient and a consideration of his history.

A man, 29 years of age, was seen in an unconscious condition. He was having Jacksonian attacks involving the left side, had a bloody spinal fluid, eyes were negative. He died in the course of a few hours. This history was obtained:

Some six weeks previous he had a cold, felt bad, felt as if he had some temperature for a few days, felt rather stupid. Returned to his work. Although he felt rather sluggish and stupid he was able to remain at his work by resting an hour or so every day. This condition existed for about five weeks. He then developed some headache, more intense on right side, had some nausea, and vomited once or twice. On the following day he collapsed and was in an unconscious state for several minutes. Consciousness was regained for some twenty-four hours, he then relapsed into unconsciousness and developed the symptoms above mentioned.

This history and these findings were suggestive of a hemorrhagic encephalitis. This was confirmed by autopsy.

The diagnosis of acute poliomyelitis (infantile paralysis) is not usually of great difficulty after paralysis sets in; but in the pre-paralytic period and in mild and abortive cases it is sometimes extremely difficult.

For instance, a child a little over two years of age had been sick for about three weeks, was taken to hospital because of pain in cervical and upper dorsal back and in arms, it being thought that it might have been some spine trouble. The child had been unable to walk for about two weeks. Examination revealed a rather pale, sickly-looking child,

\*Presented to the Seventh (N. C.) District Medical Society, meeting at Lincolnton, October 8, 1928.



very irritable and nervous. Apparent general weakness of muscles of neck, back and also especially of the quadriceps and anterior tibials. It was not possible to test out various groups for the child was very fretful and irritable. The elbow and wrist jerks were very weak, knee jerks absent—no Babinski or clonus—child seemed hypersensitive to pin point. Leucocytes were 30,000; spinal fluid showed increased pressure, cell count 30; Wassermann reaction negative. Recovery.

The general symptomatology of the earliest stage of poliomyelitis has little of direct diagnostic significance unless observed in epidemics. The nervous symptoms are rather striking. There is usually tendency to drowsiness. Associated with this, or sometimes instead of it, there is irritability, restlessness, desire to be left alone, hyperesthesia, pain in neck and back of legs not infrequent. Weakness or twitching of the muscles may be observed. Convulsions are rare. Fever is usually of a moderate degree, not necessarily as high as most of the text books would have us to understand. Sometimes nausea or vomiting, occasionally constipation but not infrequently diarrhea; evidence of respiratory infections especially of upper tract. A peculiar expression of the eye has been noted in certain epidemics.

In referring to suppurative lesions I will discuss more particularly brain abscess as this is a condition that is very easy to overlook. Brain abscesses more frequently follow some infection in the sinuses, ear, nose or throat. Sometimes we may think we have only a bad cold or sinus infection when as a matter of fact a brain abscess may be present. The patient, however, will look more sick as a rule, and intense headache may be the outstanding symptom, or mental symptoms may come into the picture and with fever we may think only of a toxic psychosis.

Some few months ago I saw a white woman, 29 years of age, in consultation with Dr. F. E. Motley. He asked me to see her because he feared brain complications. She consulted Dr. Motley the latter part of February because of a pain in the frontal region. She gave a history of having had influenza during the holidays, being sick with a high temperature and a purulent discharge from the nose for about six weeks. He found a bilateral pansinusitis and noted the possibility

of an osteomyelitis of the frontal bone. On the following day operations on sinuses were performed. Some of her local symptoms cleared, but she continued to run a septic temperature. Blood cultures and spinal fluid studies were negative. She was given a transfusion and for a period of about a week she improved rapidly and had no temperature.

On March 14th the patient was somewhat disorientated for about a half hour and began running temperature. It was at this time that I saw her. Dr. Sloan reported no choking of disc, no organic neurological symptoms were present. The possibility of a toxic psychosis was considered. The patient did not look well, and complained of some headaches. Ten days later patient was feeling much improved. She was able to go about town shopping and had no complaint other than an occasional headache. However, she still did not look well, although she said she felt very good. Eighteen days later patient was allowed to go home but advised to report for repeated examinations. Two days after returning home she was brought back to hospital in an unconscious condition with some choking of disc, increase of globulin in her spinal fluid and a globulin curve, 26 cells—mostly lymphocytes, no bacteria found, culture negative. A tentative diagnosis of a frontal lobe abscess was made. At operation (Dr. Motley) a right frontal lobe abscess was found surrounded by a very thick wall. The patient recovered beautifully under his care. The patient was seen a few days ago, appeared to be and was in good condition mentally and physically. Unfortunately, as is true with many of these cases, she had an epileptic seizure about a month ago. She has had no recurrence.

Another case was one of frontal lobe abscess in which there was practically entire destruction of this lobe. This man was in a more or less mentally disturbed state when seen although he too had a "dipping of consciousness" when he would be alert mentally and talk well. At other times he was very irritable, unreasonable, hard to manage, very difficult to keep in his room at times. His fundi were not involved as in contrast to the previous case. His cranial nerves were not involved. There were no neurological findings. His spinal fluid showed a cell count of 86—mostly lymphocytes, increased globulin

curve. A globulin curve means brain involvement or destruction. This man's history was important. He had about three weeks previous an influenza-like attack; severe frontal headaches began on the fifth day and were persistent. He was having convulsive seizures.

An opinion was expressed that he probably had pansinusitis and frontal lobe abscess. X-ray confirmed pan-sinusitis. He died two days later. Autopsy confirmed the diagnosis.

Patients with sinus conditions are more apt to develop frontal lobe abscess. Those with ear disease are more likely to develop temporal lobe involvement. For several reasons, the diagnosis of a brain abscess may be very difficult. The patient may present symptoms suggestive of an abscess, when in fact none is present, in uncomplicated cases of middle ear or labyrinth infection. Serous meningitis is an important complication in ear cases and may lead to a diagnosis of brain abscess. Ataxia, nystagmus and optic neuritis may complicate the picture.

General considerations, though each individual point may not have diagnostic significance, are important when taken together and reviewed as a whole. The mental condition of a patient suffering from abscess is apt to show a certain variability which is characteristic, at times drowsy with mental confusion. At other times more alert and rational. This "dipping of consciousness," as described by

Homell, is not exhibited to the same degree in uncomplicated cases of ear disease, nor in patients suffering from meningitis or sinus thrombosis.

The pulse rate as a rule is slow. A high temperature, associated with rigors, is more indicative of meningitis or sinus thrombosis. The development of hemi- or monoplegia is strongly suggestive of an abscess. Involvement of the speech centers in the left temporal lobe is more in favor of an abscess, however the patient's mental condition may make it difficult to tell to what extent aphasia is present. Labyrinth disease may closely simulate the symptoms of a cerebellar lesion. If, however, ataxia and atonia of the same side develops early and are associated with signs of increased intracranial pressure there is good reason to suspect the presence of a cerebellar abscess.

In regard to the diagnostic value of the spinal fluid, to my mind increased globulin, especially if very marked, is valuable in the diagnosis of brain abscess. E. Schmiegelow remarks, "If we have a case of purulent meningitis in which the cell count of the spinal fluid seems to be diminishing, and a decrease of pressure—in other words a clearing up of the spinal fluid, while at the same time the clinical symptoms of an endocranial complication increasing, then we had better consider strongly a brain or subdural abscess, in spite of fluid findings."

### A CASE OF DUCO POISONING

Clyde A. Undine, M.D., in *Minnesota Medicine*

A young man thirty years of age who worked in an automobile refinishing place of business where much ducos was used, became ill and began to expectorate bloody, frothy sputum. He became very nauseated, very weak, ran a temperature of from 100 to 102. He was placed in the hospital; ice packs were used over his chest; he still continued to have bloody sputum in large amounts for a number of days. His temperature remained the same for practically two and a half weeks; after that his fever went down gradually until it became normal within a period of several weeks. After the first two weeks' rest his cough ceased and he did not raise any more bloody sputum. The sputum at first

was of large amount and looked like that of an advanced cases of pulmonary tuberculosis. While in the hospital he gained in weight, and was able to leave in good shape at the end of five weeks. Numerous x-rays were taken while in the hospital and since dismissal, over two years ago, no signs of tuberculosis have been found.

This man had worked in the auto refinishing department for two years and said that he had noticed that the gas, as he called it, "that banana odor," was getting the best of him. Upon investigation of the place where he was working, I found that the place was very poorly ventilated, had no roof ventilators, and only one window at one end of the building.

The patient is now well.

## UPPER RESPIRATORY INFECTIONS WITH PREDOMINATING GASTRO-INTESTINAL SYMPTOMS\*

J. R. ASHE, M.D., Charlotte

I wish briefly to call your attention to a type of illness in infants and young children that we have been seeing with increasing frequency for the past few years.

Something like five years ago Marriott began reporting mastoid infections in infants as being the cause of many severe and ill-defined conditions and claiming very good results in curing these cases by mastoidectomy. Since then quite a number of these cases have been operated upon and reported by capable observers in various sections of the country. During all this time we have had this possible cause and possible treatment very much in mind in puzzling and worrying over our babies with severe vomiting and diarrhea, especially where there were any associated upper respiratory or ear symptoms.

So far, we have been able to find only three cases which had definite middle ear infection and which, not responding to drainage through the drum, had their mastoid antra opened for this reason. Our results with these three babies were discouraging. The first was a colored baby eight months old with a severe vomiting and diarrheal attack based upon a definite double otitis media, who did not improve on opening his drums and two days later had a double mastoidectomy and immediately recovered from his attack. (He, however, died a few months later from some other cause.) The second was a two-months-old breast-fed baby with a severe upper respiratory infection with a very mild otitis media. Two days later he returned to us in considerably poorer condition and on this visit his otitis had progressed to where one drum was very definitely bulging. This was opened and two days later mastoidectomy was done because he was still going down hill, and we thought that we had a very quick and rather marked improvement in his condition. During the next three weeks he had several transfusions and other supportive measures and it looked like he was going to get through. Then he developed a definite mastoiditis on

the opposite side and died two days after this was operated on. The third was a four-months-old baby with a coryza followed by otitis media which produced rather severe symptoms, which were unimproved by opening the ears and whose mastoid antra were opened the following day. Unfortunately, this baby died two days later of lobar pneumonia.

I am bringing up this mastoid antrum infection because Marriott, in emphasizing the existence of this condition and the good results obtained in operating upon them, started us on the search for such cases. While we have been able to find very few, we have gradually become more and more aware of the importance of acute foci of infection in infants as being the cause of many of those severe vomiting and diarrheal attacks that have heretofore been so difficult to treat successfully.

These cases occur almost entirely during the fall, winter and spring months, or during that time of the year when colds or upper respiratory infections are prevailing. The great majority are under two years of age, in that period of life when middle ear infections are most common, because of the relative shortness, straightness and large diameter of the eustachian tubes. They usually come in to us with a history of having been sick for from one to two weeks, starting with a cold which gradually became worse, and after a day or two fever beginning and persisting. At about the same time they begin vomiting, usually all the food and medication offered, and diarrhea develops—first frequent thin stools, later containing considerable mucus and sometimes blood. Should the vomiting and diarrhea persist, this loss of body fluids results in dehydration with prostration and acidosis or alkalosis and possibly death. Often the only symptoms that the baby presents that would lead you to suspect an otitis are restlessness, fretfulness and wakefulness. These symptoms are so invariably present in practically all severe and moderately severe illnesses in infants that unless you were thinking of the possibility of acute foci of

\*Presented to the Seventh (N. C.) District Medical Society, meeting at Lincoln, October 8, 1928.



infection, they would not lead you to any particular part of the body.

These babies are usually acutely ill, with fever, evidences of loss of weight, dry tissues, often sunken eyes, restlessness, red dry-looking throats, often considerable post nasal exudate. White blood count usually increased—up to 20 to 40,000, with relative polymorphonuclear leucocytosis. The red cells are usually down considerably below normal with hemoglobin proportionately decreased. The urine shows some albumin and a few hyaline and granular casts. Culture of the stools, in spite of their bloody mucus character, is always negative for dysentery bacilli, in contrast to our regular summer intestinal infections, which are almost constantly positive for the same bacilli.

I have purposely left till last a description of the focus of infection, for this is the thing that I wish to emphasize and my reason for appearing before you on this subject. I have seen these symptoms accompany a simple tonsillitis or a post nasal infection or a small area of pulmonary consolidation, but in the great majority of cases we find the focus in the middle ear. The appearance of the drum will vary a great deal, depending upon how early the ear is examined. Early, it will be a simple red drum without any bulging; later, there will be redness and bulging. This redness fades gradually and later you might see a drum that has again become grey although very dull and usually with a thickened appearance. Unless you are very careful in your examination you might pass this drum as being normal. When this drum is opened or the dull red drum before this stage you will always get frank pus, which is usually very thick.

The great majority of these cases, because of their predominating gastro-intestinal symptoms, have been treated as gastro-intestinal cases with the usual laxatives and attention to diet. It will be right interesting at this time to attempt to explain why these gastro-intestinal symptoms are so marked. Marriott explains his mastoid antrum infections in this way: the usual organisms that infect a middle ear or mastoid antrum elaborate a toxin that has a special affinity for capillary tissue and as the stomach and intestinal tract has such an abundant blood supply, naturally these organs will show the first changes and

symptoms referable to this tract will therefore be the most severe. This explanation would fit in with any acute focal infection.

Another possible explanation would be that the infection by producing pressure on the drum will reflexly cause these symptoms, probably due to the connection of Arnold's nerve with the vagus nerve. This certainly seems very likely in the simple early cases of otitis with vomiting which are quickly checked by early incising a drum which shows redness and very little bulging.

It seems to us that these ear infections with gastro-intestinal symptoms can to a large extent be classified according to how early or late the ear infection is recognized. In our practice out in town during the coryza months we see a large number of cases of acutely inflamed ears along with vomiting and diarrhea that quickly subside on opening the drums and releasing either serum or thin pus. In our hospital during these months we are never without one or more of these severer cases with dehydration that have been running along for a week or more, with more pronounced changes in the ear membranes and with the thickened pus that is so difficult to keep draining. I might say here that it is very likely that all or nearly all of these cases have some infection in their mastoids, but that with the exception of the three cases above reported we have been able to get away with all of them by draining through the drum. It is possible that Marriott's mastoid cases represent a further advance of the pathological process due either to longer duration or more intense infection, causing more swelling of the middle ear membranes and thus closure of the atticus with infection penned up in the mastoid antrum.

I wish to report one case that illustrates this middle type: One of twins, one year of age had always been well until the present illness which began two weeks before admission to our hospital. Began with a coryza and fever which had persisted during the entire two weeks. During the first few days he was very fretful and slept very poorly. At the end of the first week he began vomiting and his bowel movements became frequent and thin. Both of these symptoms continued during the entire second week. On admission this baby was acutely and severely ill and very much dehydrated. His rectal tempera-



ture was 101.8 at noon. He was very drowsy. Both ear drums were dull red and both were bulging. Examination negative otherwise. White count was 15,000 with 54 per cent polys. Urine negative except for a few hyaline and granular casts. Both drums were opened by Dr. Motley and thick pus obtained from both. An intraperitoneal injection of normal saline was given. By the next morning this baby was very much improved with vomiting stopped, diarrhea checking and temperature lower. On the second day his temperature was practically normal. His drums had, however, to be opened several times, as it was very difficult to keep them discharging.

An interesting addition to this report is that the other twin became sick at the same time with the same symptoms and was also brought into the hospital. He, however, was getting the best of his infection and all that he showed on examination was one drum that was a little off-color and apparently a little thickened, a drum that had apparently quieted down without treatment.

Our treatment of these cases consists in establishing drainage of these middle ears and in maintaining this drainage. This pus is often so thick that this is a rather difficult thing to do and frequently a drum has to be

reopened a number of times. We put these babies on forced fluids—skimmed lactic acid milk, gruels and orange juice. Except for getting food and fluids into them, we let their gastro-intestinal tracts alone. If they are dehydrated we give them normal salt intraperitoneally, and if necessary give 5 per cent dextrose intravenously. To those far down hill with dehydration and anemia, transfusion is a very useful procedure. The remarkable feature of these cases is the rapidity with which their symptoms—fever, vomiting, and diarrhea disappear when a middle ear that is full of pus is drained. I wish to add here that in caring for these babies we have had the valuable aid and co-operation of our friends, the otologists.

I wish to emphasize three points:

1. The great majority of your cool weather gastro-intestinal cases in infants and young children are based upon an acute focus of infection and this focus in the great majority of cases is in the middle ear.

2. If you wait for the baby to show definite signs or symptoms of middle ear disease a great many of these ear infections will be overlooked.

3. If the inflammation in the ear is recognized in the early stage and treated we will not likely have the second or third types.

---

## SUCCESSFUL ANASTOMOSIS OF STENSON'S DUCT

### Case Report

HUGH S. BLACK, M.D., Spartanburg, and P. W. FLAGGE, M.D., High Point

One of the distressing sequelae of facial injuries is salivary fistula; occasionally a case of spontaneous rupture has been reported. The main reasons for its occurrence in the former instance are: failure to immediately recognize an injury to the duct, failure to keep in mind the position and course of this duct in treating facial injuries, failure to get the severed ends of the duct in good alignment before anastomosing, and failure to keep the lumen patulous.

A brief anatomical review of Stenson's duct recalls that it is a small tube about  $2\frac{1}{2}$  inches long and  $\frac{1}{8}$  of an inch in diameter,

having its orifice as its narrowest point. The duct opens into the mouth on a level with the upper second molar tooth and continues across the masseter muscle as represented by a line drawn from the lower margin of the concha to a point midway between the ala of the nose and the red margin of the upper lip. It is well to remember that the duct bends suddenly inward at the anterior border of the masseter muscle, making a right angle bend to pierce the buccinator. It lies just above the infraorbital branches of the facial nerve and just below the transverse facial artery.

**Case Report:** Recently we had the opportunity of attending a patient with a complete severance of this duct whose history is as follows: Man, aged 27, was admitted to the High Point Hospital March 22, 1928, suffering from knife wounds of the left face and forearm resulting from a fight. His family and personal histories were negative. Examination showed a well nourished, muscular man, findings negative except for a bleeding, gaping wound on the left side of the face about  $3\frac{1}{2}$  inches long extending from about one inch in front of the tragus downward toward the upper lip severing the fibres of the masseter and buccinator muscles. Close examination showed that the parotid duct had been completely severed at a point just where it bends forward and inward to pierce the buccinator muscle. There was a bleeding lacerated wound in the left forearm. The blood-count, blood wassermann and urinalysis were negative.

**Operation under local anesthesia:** The wound was thoroughly cleansed and the severed ends of the duct easily identified. Saliva could occasionally be seen coming from the parotid end. Realizing it would be difficult to suture accurately the ends of such a small tube, it was decided it could best be accomplished by passing a small ureteral catheter in the opening of the duct in the mouth, pushing it along the course of the duct and bringing the severed ends together over the catheter where they were anastomosed with ease by using interrupted chromic catgut, No. 0. The catheter was left in the duct and the remaining part cut off leaving about one inch protruding in the mouth. The muscles were then sutured and the skin closed in the usual way, without drainage.

**Progress:** The patient was put on liquid nourishment for one week. The catheter remained *in situ* until the ninth day, when it was removed. The skin wound had healed by first intention. On the eleventh day there appeared a small swelling in the wound which gradually enlarged. A needle was inserted into the swelling and a clear fluid aspirated which proved to be saliva; this leaking at the site of anastomosis continued for several days, during which time it was necessary to aspirate three or four times. On each return visit to the office the duct was catheterized with the ureteral catheter for the prevention

of a stricture. This was continued for several weeks, and now, after a lapse of six months, no one could tell he had ever had an injury were it not for the scar on his face.

**Comments:** This case is one which might have been easily overlooked owing to the carelessness with which the wounds are sometimes sutured. It should lead us to thoroughly inspect wounds and to be entirely familiar with anatomical structures, and remind us that instruments can be used for purposes other than that for which they were originally intended. In this case it might have been better for the catheter to have remained longer, as slight leakage occurred after the ninth day. If, in a similar case, leakage occurred after removal of the catheter, it would be wise to re-insert it and leave it for a longer period of time.

In cases of salivary fistulae of some duration, where it is possible to isolate and freshen the ends of the severed duct, better results might be expected from an end-to-end anastomosis over a catheter.

---

THE ROARING GAP HOSPITAL has been chartered as a non-stock corporation. This charter was taken out in furtherance of the plans for the establishment of a baby hospital at Roaring Gap, made possible through a gift for this purpose by Mr. and Mrs. James A. Gray, of Winston-Salem, in the amount of \$25,000.

The hospital, at first to be started on a modest plan, will be developed and supervised by Dr. L. J. Butler, a pediatrician of Winston. The facilities of the hospital are to provide both for pay patients and for charity cases where sick babies in the summer months can be treated and possibly restored to health, when such restoration to health might be impossible in the heat of the city.

Provision will be made for mothers to be cared for in the hospital with their babies in instances where the mothers are unwilling for the babies to be under the care of nurses exclusively.

Dr. Butler plans to have a full staff of special nurses and an interne at the hospital. —Charlotte Observer.

## PRESIDENT'S PAGE

*Tri-State Medical Association of the Carolinas and Virginia*  
*Jas. K. Hall*

In response to a cordial invitation from the Guilford County Medical Society to meet with it I journeyed down to Greensboro on November first. Dr. J. Bolling Jones, of Petersburg, Dr. R. Finley Gayle and Dr. Warren T. Vaughan, of Richmond, went along with me, and in Greensboro we were joined by Dr. D. A. Garrison, of Gastonia, Dr. J. M. Northington, of Charlotte, Dr. L. G. Beall, of Black Mountain, Dr. E. S. Boice, of Rocky Mount, and Dr. Oren Moore, of Charlotte. To these officers of the Tri-State was added by Dr. A. J. Crowell, a former president of the organization. At the King Cotton Hotel the Guilford County Medical Society had prepared food for our bodies and pabulum for our minds. The evening was delightful.

After the close of the formal session a large committee of the Medical Society met with us, and there was a general discussion of the plans for the approaching meeting of the Tri-State at the O. Henry Hotel on February 19-20. Representatives from the local Medical Society assured us that material would be furnished by them sufficiently abundant to enable the Tri-State for the first time in its history to present to its members well-organized clinics. Such clinics will be instructive to us doctors and helpful to the individual patients. The existence of any medical organization is justified if it makes itself helpful both to doctor and to patient; if it does neither it does not deserve to have continuing life. Greensboro is no mean city. Within seventy-five miles of it there are numerous smaller towns, and a circle drawn around Greensboro having a radius of fifty or seventy-five miles would include hundreds of thousands of people. Many of these people are not well. Some of them are definitely sick, and the ailments of a number of them must be obscure. Clinics well-organized and well-conducted will make possible the diagnosis of some of these vague troubles. A good many years ago, when a medical student, I attended a skin clinic in which a Jamaican negro presented himself. In a few moments

Dr. Stelwagen, a really great dermatologist, told the patient he had ainhum. A few years later in Morganton I was able to make the diagnosis of ainhum in a little white girl. Had I not attended that particular clinic in Philadelphia I could not have made the diagnosis. A few years ago I lost a patient after an operation necessitated by gangrene. But I did not know why the middle-aged man had gangrene. A year after his death I attended a medical meeting at which a patient was presented suffering from Buerger's disease—obliterating endarteritis. Then I was immediately enabled to understand that my patient had died of that disease.

Vision constitutes the best information service available. The thing heard does not fix itself in my mind so firmly as the thing seen. We doctors need to be encouraged to make more use of our eyes—we need to be taught how to use them medically. And most of all do we need to know how to interpret rationally and soundly what we see with our eyes and what we hear with our ears. No teacher can give us sound judgment; no instructor can endow us with understanding, but most of us have sense enough to make useful doctors of ourselves if we can only be induced to make rational use of such gifts as we possess. No laboratory, no mechanical device, no wealth of apparatus can diagnose disease. That performance must always be left for the operation of the human mind. There can be no substitute for good sense well used.

The suggestion was made at the conference in Greensboro the other night that a clinic be held in which each of the following problems could be discussed: cardio-renal disorders, children's diseases, skin affections, and conduct disorders. Dr. Bolling Jones, president of the Medical Society of Virginia, spoke of the advisability of holding a clinic for "obscure disorders"; those so vague in nature that not even a tentative diagnosis had been formulated. What could be more helpful? Every doctor in North Carolina must have under his care one or more patients in whom



he is able to make no satisfactory diagnosis. If such patients be taken to the meeting in Greensboro their condition will be studied by the ablest medical minds in the three states, and by the invited guests. It was the suggestion of Dr. Jones, too, that at least one hour be given over to the presentation of case reports, written succinctly, of five minutes each. At the conclusion of the hour the case reports would be thrown open for discussion. That would be a new and a helpful procedure—a clinic on case reports.

It must be understood, however, that every patient brought to the clinic by a doctor, or referred by him, must be accompanied by a complete history, and by all the laboratory and clinical findings possible.

All of us need to encourage ourselves to make better use of our clinical material—we need to be more thorough and more painstaking and systematic in the study of our patients. We can get adequate instruction in diagnosis without going North for it, or abroad. We can give it to ourselves if we but will to do it. We need to lift ourselves out of our unalertness, or inertia, perhaps out of our professional laziness. And the

young men in the profession need to understand the value of making notes, of recording their observations, and of making reports of their work to the medical societies and to the medical journals. Careful writing begets careful thinking, and judicious thinking makes good doctors.

Shall there be two evening sessions—one for the public and one for the doctors? Why not? Good citizenship, sound morality, wholesome conduct, are all manifestations of good health. Why should we not be addressed by a great educator, an eminent divine, a great lawyer? The doctor who is not vitally interested in all the activities, physical and mental, of mankind is not adequately fulfilling his mission. We must be prepared and willing to help men and women and children to live their lives more abundantly.

The thyroid and the pituitary and the adrenals of the Tri-State have taken on increased activity. The meeting in Greensboro is going to be unusual, even for a state so intelligently aggressive as North Carolina. Help us to make the meeting the best in the history of the organization.

---

#### DUM SPIRO, SPERO

There are many examples of great mental activity late in life; Cato learned Greek at eighty; Pasteur did his epoch-making work after fifty; Michelangelo did his magnum opus at the age of ninety; Goethe finished *Faust* at eighty; the telescope was invented by Galileo in his seventy-third year; Titian painted one of his most celebrated pictures, "The Battle of Lepanto," at ninety-eight; Oliver Wendell Holmes is today at eighty-seven one of the most active members of our Supreme Court; Weir Mitchell turned to successful literary work after seventy, and Foch, Generalissimo of the Allies, at seventy conceived and executed the strategic movements which brought the World War to a close.—From President's Address to American Gynecologic Society, in *American Jour. Obs. and Gyn.*





## PRESIDENT'S PAGE\*

Medical Society of the State of North Carolina

Thurman D. Kitchen

Disraeli never uttered a more profound statement than when he said: "Public health is the foundation on which reposes the happiness of a people and the power of a country. The care of the public health is the first duty of a statesman." As statesmen, then, as well as health soldiers, physicians must be ready to perform their patriotic duty; remembering all the while that medicine is distinctly not a trade, but a profession and, as such, it is not learned and practiced primarily for profit. Tradesmen there should be and must be if the machinery of the world is to function. But the professional man should remember the distinction and remember that he works with the most highly organized material known to man—human life. The tradesman may be a pragmatist; the physician, if he is to serve his day and generation, *must* be an altruist. Those who use their knowledge for selfish ends find only disappointment and disillusionment; this is no new doctrine, but a foundation principle. How real the despair of Dr. Faustus, crying out from his study in the twilight of the sixteenth century:

Couldst thou make men to live eternally  
Or, being dead, raise them to life again,  
Then this profession were to be esteemed.  
Physic, farewell.

By this I do not mean that the doctor should not be a good business man. To earn a living is necessary and no doctor can render his best service unless he is free from financial embarrassment. It helps both doctor and patient for the doctor to collect not only enough to enable him to live comfortably, but also a competence to lay aside for a rainy day. In the January number of *The Atlantic Monthly*, Dr. Keen has an illuminating article entitled "What it costs the doctor." At least, let us hope it will be illuminating to the laity, many of whom are prone to think that doctors are in the millionaire group. To doctors themselves what he writes is not new; many have travelled the same road and the experiences he relates have a

familiar sound. That inimitable man, that prince of medical men, reminds the readers of *The Atlantic* how difficult it is to reconcile the purses of the patients with those of the doctors. He reminds the public of the generosity of the medical profession, saying that the active practitioner's time is never his own. "When duty calls," Dr. Keen writes, "sleep and meals and social engagements always yield to the patient's welfare." He relates an incident out of his own experience—trusting that he will not be deemed egotistical—of how, after having been out successively for thirteen nights, usually for several hours, he went to bed saying: "'Well, anybody must be mighty sick to get me out of bed this night.'" He continues: "At that very moment my night bell rang, and through my speaking tube the messenger on my doorstep—it was long before the telephone was invented—informed me of a great fire near St. Mary's Hospital. Scores of people had been compelled to jump from windows to save their lives, and the hospital was full to overflowing with the desperately injured. I must go at once. Weary as I was, I responded immediately and spent the entire night there. For the first and only time I saw the thermometer mark 107 degrees in a patient who had scarcely an unbroken bone in her body. She died in a short time. About 7 a. m. I gathered up my instruments and took a Second Street horse car back to my home, nearly three miles away. An Irish laborer, going to his work after a good night's sleep, sat down beside me and noted my surgical instrument case. On his inquiring why I was out so early I told him of my night's work. 'Well,' said he, 'you'll get a nice fat fee for all that work, sure.' When I told him that most of the thousands of hospital physicians and surgeons received no pay, he was wholly incredulous, and exclaimed, 'Why the devil do you do it, thin?' And was only half convinced by my explanation." Dr. Keen enlarges upon the cost of becoming a doctor, reminding his readers that this is a slow,

expensive process, the average cost of it being approximately \$10,000. Many medical students are obliged to borrow a part of this money, and this debt is, he declares, a millstone around their necks in the earlier part of their practice. Next comes the expense of beginning to practice—and we doctors do not need to be told of all the appurtenances a doctor must have. Dr. Keen closes his article by saying: "As to marriage and children, he who assumes such responsibilities

before his practice fully warrants them is a brave man." And so I reiterate that a doctor should of necessity look after the collecting end of his business. Man does not live by bread alone—but to live he must have bread.

While public welfare, business men, and mankind in general, are dependent upon the services of the doctor, nevertheless, the doctor must have the same provisions and comforts of life as does his neighbors.

---

### FOR BROAD LEARNING

The physician who is not also a scholar may be a more or less successful practitioner, but his influence will be confined, his methods mechanical and his interests narrow. The doctor, the lawyer and the minister of religion can do but inferior work, unless to a knowledge of their several sciences they bring the insight, the wide outlook, and the confidence which nothing but intimate acquaintance with the best that has been thought and said can confer. The more accomplished the specialist, the greater the need of the control which philosophic culture gives.—Bishop Spalding, via *The Wisconsin Medical Journal*.



# Southern Medicine and Surgery

Official Organ of

} Tri-State Medical Association of the Carolinas and Virginia  
} Medical Society of the State of North Carolina

JAMES M. NORTINGTON, M.D., *Editor*

## Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	<i>Human Behavior</i>
FRANK HOWARD RICHARDSON, M.D.	Black Mountain, N. C.	<i>Pediatrics</i>
W. M. ROBEY, D.D.S.	Charlotte, N. C.	<i>Dentistry</i>
J. P. MATHESON, M.D.	Charlotte, N. C.	<i>Diseases of the Eye, Ear, Nose and Throat</i>
H. L. SLOAN, M.D.		
C. N. PEELER, M.D.		
F. E. MOTLEY, M.D.		
THE BARRET LABORATORIES	Charlotte, N. C.	<i>Laboratories</i>
O. L. MILLER, M.D.	Gastonia, N. C.	<i>Orthopedic Surgery</i>
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	<i>Urology</i>
JOHN D. MACRAE, M.D.	Asheville, N. C.	<i>Radiology</i>
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	<i>Dermatology</i>
PAUL H. RINGER, M.D.	Asheville, N. C.	<i>Internal Medicine</i>
GEO. H. BUNCH, M.D.	Columbia, S. C.	<i>Surgery</i>
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	<i>Periodic Examinations</i>
HENRY J. LANGSTON, M.D.	Danville, Va.	<i>Obstetrics</i>
CHAS. R. ROBINS, M.D.	Richmond, Va.	<i>Gynecology</i>
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	<i>Neurology</i>
LOUIS L. WILLIAMS, M.D.	Richmond, Va.	<i>Public Health</i>

## APPRECIATING A SMALL TOWN DOCTOR — A Finnish Doctor Backs Us Up

In our issue for May, 1927, we editorialized as follows:

From the beginning of our conduct of this journal we have proclaimed that it was *for* the general practitioner, and that the more it became *by* the general practitioner the better would we be pleased. It is tremendously gratifying to be able to publish an issue, the greater part of which is from the pens of general practitioners,—family doctors. That's something like. And these papers were not saved up to "make a record."

One would have to seek far to find a more striking illustration [than is afforded by citations to follow] of the fact that, when a family doctor can be persuaded to write, he writes well, and about matters of vital concern to those who look to him for medical care.

Dr. Hill sends out an appeal to his fellow doctors to be ever on guard against the insidious advance of cancer, in one of its commonest locations. His is no text-book paper written for the purpose of putting himself before his district society. It shows in every line that the lessons are drawn from his own experience, and that he earnestly wants to see more and more grey haired couples seated on vine-clad porches or about winter firesides as he goes about ministering to his people.

Dr. Toy writes on the other of our two greatest destroyers. His treatment of the subject of tuberculosis in its acute form is able and timely. The two carefully worked-out case reports give all the essential features and deserves the highest praise.

We hope every one into whose hands this issue comes will read and ponder Dr. Holmes' article. It is not long; but there is much in it.

Ever since taking over this journal we have proclaimed that the death-rate in child-bed in North Carolina, and every other of these United States, is disgracefully high, and that the application of intelligence and care by doctors in attendance on women through pregnancy and labor would greatly lower this death-rate. Some have attributed this high rate to the inefficiency of the midwives. The evidence which has been adduced from time to time in this journal does not bear it out that this is the chief cause. Some have announced with a tone of finality that no improvement can be had except as there are more and more deliveries in hospitals by men confining their work to obstetrics.

As far as Dr. Holmes' record goes it refutes these contentions, and supports our opinion that a great number of these deaths are due to meddlesomeness and insufficient attention to asepsis. It also demonstrates that the quality of medical service rendered is not dependent on the size of the town, or the presence or absence of hospital facilities, nearly so much as on the endowment of the medical attendant with brain and heart.

Attention is frequently called in an oratorical way to the fact that Edward Jenner was a country doctor. This usually is met with the statement, or the thought, "That was a long time ago." Many will recall that Sir Thomas Lewis' monumental contributions to our knowledge of diseases of the circulatory

system were made by a small town doctor; and these contributions were made in the very recent past. This should be an effective answer to the reasoning that valuable contributions to medical knowledge can be made only by those in populous centers.

He who has been termed "the myriad-minded" gives expression to a wonderful idea in two passages which may well be considered together:

Modest doubt is call'd  
The beacon of the wise.

*Troilus and Cressida.*

Our doubts are traitors  
And make us lose the good we oft might win  
By fearing to attempt.

*Measure for Measure.*

Modesty is a virtue often carried to excess by the country doctor. He stands in entirely too great awe of "the", so-called, "authorities." In many cases he is intimidated by "laboratory" or "x-ray diagnoses."

We are in no way disposed to underrate laboratories. It is impossible that we could be hostile to agencies which have blessed us so richly. We agree fully with Louis Pasteur, in the adjuration:

Take interest, I implore you, in those sacred dwellings which one designates by the expressive term: Laboratories. Demand that they be multiplied, that they be adorned: these are the temples of the future—temples of well-being and of happiness. There it is that humanity grows greater, stronger, better.

But every trained laboratory man—whether biochemist, bacteriologist, pathologist, serologist or radiologist—will agree that his science is not an exact one, and that—though he can supply invaluable information, often that which decides the diagnosis—the making of the diagnosis lies with the clinician. And provision for the every-day laboratory tests may be made in any doctor's office at a very small expense. A well educated country doctor, so equipped, if he observes, records and ponders, is in a position only a little behind his city brother, for practicing the medicine of today and making the medicine of tomorrow; and, as a by-product, he can obtain recognition far and wide.

On September 4th we received from Akademiska Bokhandeln, Helsingfors, Finland, an order for a copy of our issue for May, 1927. Along with this copy we sent a letter asking why it was desired. A few days

ago came the information, "We would advise you that a client of ours was interested in an article by Holmes, 'A Comparative Study of Obstetrics.'"

Fairmont has a population of only a thousand, but it has a doctor whose work is of such a quality as to have made him known many thousands of miles from home. How did he do this? By no spectacular means, to be sure. He only observed carefully, recorded accurately, pondered intelligently—then wrote briefly.

#### DOCTORS' BILLS SHOULD HAVE SPECIAL CONSIDERATION

There is a movement on foot, sponsored by Captain Bruce Carraway, of High Point, to have the next General Assembly of North Carolina enact a garnishment law. The Greensboro News editorializes on this movement under the caption, "Two Parties to a Sale." Quoting this excellent paper:

"The old saw says that it takes two to make a bargain. It always takes that many, often more, to make a sale on credit. So long as credit is easy there will always be deadbeats; it isn't at all certain there would not be almost as large a number were credit tightened. *A man who takes the goods [or services] of another and refuses to give value in return therefore is generally a liar and not infrequently a thief.* [Italics ours.—S. M. & S.] The merchant who continues to get bad accounts on his books is not blameless, either. There is no means of making merchandising foolproof.

"To what purpose the publication of a list of deadbeats in this or any other community? In ninety-nine cases out of a hundred the list would contain the name of no man or woman not already known to the merchants as poor pay. The credit rating of every considerable buyer on charge account is already a matter of association record.

"Does a merchant who sells a bill of goods to a buyer without some knowledge of that buyer's willingness and ability to pay deserve to have either the assistance of the courts or the powerful weapon of publicity to help overcome the handicap of his shiftlessness?"

As applied to merchants' accounts this reasoning is cogent, and these questions are unanswerable; but it is obvious that bills for doctor's services come in a different category. Customers do not go into a shop, select articles they desire, have them wrapped, place them under their arms and march out, without making bargains as to terms of settlement. Patients regularly come into doctors' offices and obtain treatment without so much as saying "charge it" on leaving. When customers apply to merchants or bankers, or



clients to lawyers for credit, popular opinion does not demand that it be granted; whereas it does demand that doctors treat sick folks irrespective of their ability or willingness to pay. When a night call comes in to a doctor, he has neither opportunity nor inclination to investigate or to bargain.

Virginia has an excellent garnishment law. A few months ago, on an elevator in the Johnston building, an indignant stranger was overheard to say: "The collection laws of North Carolina must have been made by men who were run out of Virginia for not paying their debts."

Few will have the hardihood to say that the doctors of North Carolina have ever failed to minister cheerfully to the sick who are unable to pay. All thoughtful persons will admit that many, many entirely able to pay—many of them living far more expensively than the doctors from whom they regularly filch services—always avail themselves of the knowledge that they are judgment-proof and that doctors are easy marks.

Our information is that the law of our state makes special provision for the collection of accounts of boarding-house keepers and undertakers. No doubt an undertaker's account is given precedence because a dead man must be buried—if not at the expense of his estate, at that of the town, county or state. No one expects the undertaker to lose by it, or even to fail to profit handsomely.

A garnishment law on the books would help tremendously. Seldom would it be necessary to garnishee. We hope the doctors of the state will enlist in Captain Carraway's company and wage a mighty, determined warfare for relief from this injustice which we have borne so long, and which is a burden grievous indeed to the majority of us.

#### TRI-STATE OFFICERS PLAN FEBRUARY MEETING

Enthusiastic and stimulating was the meeting of the Guilford County Medical Society on the first of November; a meeting to which the officers of the Tri-State Medical Association of the Carolinas and Virginia had been cordially invited, not only to sit at a hospitable board and learn from the presentations of the host society's members, but to contribute to the program.

Drs. P. W. Flagge, E. T. Harrison and

H. L. Brockmann, all of High Point, contributed an excellent program, discussing tabes dorsalis and undulant fever, and presenting case reports.

Here is an opportunity to again emphasize the value of case reports. *The symptoms a patient has are of far more value than those the text-books say he should have.* In a recent conversation Dr. Wm. Allan said that he did not recall writing a medical paper in which he did not report cases of patients who had been under his observation. This is cited as an enviable record worthy of emulation.

President James K. Hall and Councilor Warren T. Vaughan were the Tri-State officers to speak before the society. Dr. Hall detailed the symptoms of a remarkable case of split personality and its dramatic cure; Dr. Vaughan spoke instructively on some of the aspects of the asthma problem.

The conference immediately succeeding the society meeting, which President Holt, of the Guilford Society, Dr. R. B. Davis, Chairman of the Local Committee of Arrangements, Dr. W. C. Ashworth, and a number of other prominent Guilford doctors kindly participated, was marked by a pledge of heartiest support of our February meeting on the part of the doctors of Guilford, and enthusiastic adoption of a plan for making the holding of diagnostic and other clinics a large part of the program.

Bear it in mind, yourself, and put out the news, that patients who will make instructive clinics will be in demand and that patients whose cases have not been satisfactorily diagnosed can here have the benefit of the study of many men of rare ability.

We are strongly of the opinion that such a program as is outlined in President Hall's "page" will please our members and stimulate them to bring in others to share our good things. Surely there is not a Tri-State member so lacking in influence that he can not induce one of his brethren to come in.

#### FOR MORE POST MORTEM EXAMINATIONS

The doctor whose patients are never examined *post mortem* shares with the preacher the distinction of being the most dogmatic of persons; and neither is to be blamed, for each is the victim of circumstances.

Such a doctor pronounces a diagnosis, the patient returns to health or dies; if the former, his case is set down as a case of what-

ever the diagnosis may have been; if the latter, the death certificate is made out in conformity to the diagnosis. Thus is *opinion*—and often ill-founded opinion—fixed in the mind of the doctor and on the records of the state, as *fact*, and in the course of a few years the doctor necessarily comes to believe himself well-nigh infallible.

The preacher, through a similar process, having no one to contradict his statements, soon comes to set too high a value on them and to distinguish but hazily between his opinions and indubitable facts.

The proper chastening process for the over-confident preacher does not appear; but there is one ready at hand for the like-minded doctor—the examination of his patients by a competent pathologist. Osler said something to the effect that the dead-house was a certain cure for cock-sure diagnosis. Two paragraphs from the editorial which, in 1924, outlined the policy of this journal under its present management read:

"A few years ago the author discussed with Dr. J. C. Bloodgood the advisability and feasibility of increasing the number of post mortem examinations in this section. He was very emphatic in the opinion that many more could and should be done. The prejudice against this measure in this conservative section has been greatly overestimated. Some of the statements to the contrary are based on indifference; some on conviction; and, probably not a few on dread of having diagnoses checked up by the pathologist. Energetic, enthusiastic clinico-pathological conferences, conducted on the plan of having the clinical record written, signed and sealed, to be opened and read as an immediate preliminary to the pathologist's incision; clinical findings and opinions to be subsequently checked with the final findings, is the way of real medical advancement.

"The journal will consistently advocate and support all measures in consonance with this idea."

Last April it was our good fortune to hear Dr. Kenneth Lynch, of Charleston, address his state society on "The Place of Autopsies in Modern Medical Practice," and the discussion which ensued. This address, with discussion, appeared in the issue for August of the *Journal of the South Carolina Medical Association*.

We agree whole-heartedly with Dr. Lynch's statement: "It is my belief that once physicians admit the value they would receive from the little effort put out and the fact that priceless advantages could be theirs without cost, the remainder of the program would be easy." He recognizes, though, that there is something else to be done; which is to conduct an operation *post mortem* in as decent surroundings and with as much regard for the sensibilities of all concerned, as would have been the case had the operation been done *ante mortem*.

We believe ourselves to be entirely free from superstition and sentimentality, and we are keenly alive to the need of bringing our people to a favorable attitude toward autopsies; but we frankly admit that we would positively refuse permission for the performance of an autopsy on any one dear to us, unless we had more than the ordinary assurance as to its manner of conduct. Conducted after Dr. Lynch's manner of practice, we would unhesitatingly grant permission, even encourage the idea.

Once the proper interest is aroused among the doctors, and proper appreciation is had that it is not so much the autopsy that is objected to as the usual manner in which it is done, we can start in to getting all the post graduate work we need right at home and in the way which will most advantage ourselves and our patients.

---

#### TESTS FOR DRUNKENNESS

By what signs may a man be known to be drunk? Is it an actual or a relative state? May we, within the proper meaning of terms, say that such a one is partially drunk? Are there circumstances under which one can properly say—in court, if need be—with the immortal Rab, "I wasna fou, but juist had plenty?"

Always an important and difficult medico-legal question, with the thickening of population and the coming of automobiles into general use, its importance has multiplied many times, with little lessening of its difficulty of solution.

Most likely the chief differences of opinion as to drunkenness—in fact the greater number of all differences on the question, to drink

or not to drink—arise from the varying effects of alcohol on different individuals.

Commonly it seems that decisions as to whether or not a man is drunk are arrived at by rule-of-thumb methods, which are susceptible of grave error.

In the *Edinburgh Medical Journal*, for October, Currie<sup>1</sup> discusses this subject in an informing and entertaining way. It is pointed out that in the great majority of cases the lay diagnosis of drunkenness is amply justified; still there are many fallacies, and no small number of persons die of brain injuries or diseases, diabetic and uremic coma because of the erroneous assumption that they are "only drunk."

Currie has seen to cases in which, from alcohol, men could not walk without assistance, yet the mind remained perfectly clear and there was not the slightest interference with speech. "One \* \* \* \* when his wife attributed his condition to smoking strong cigars, assured us with a candour that might have shamed Mr. Winkle, that he was drunk and that the tobacco had nothing to do with his condition."

A story is related of a Dublin friend of Sir Edward Sullivan driving home in an outside car when the horse fell, throwing the gentleman out and depriving him of consciousness. After a few minutes he came to himself and found a constable kneeling beside him. "What are you doing?" the sufferer asked. 'Sor, I was smelling to see if ye had had any drink.' 'Go and smell the horse,' was the reply, 'it was he that fell.'" In another of his cases, a lady with Meniere's disease, who had a crisis when changing trains, staggered and became violently sick, and was brutally refused aid because the porter "had no time to waste on tipsy women." Labyrinthine vertigo, imperfections in the palate, excitement following an accident—any one can give the superficial appearance of intoxication.

Sir Douglas MacLagan is quoted as having "said of the designation of facial acne rosacea as grog blossoms, that it expressed a view as to etiology at once unphysiological, unpathological and uncharitable."

The erroneous assumption that a person is

drunk, even if it can be shown that he has had an intoxicating drink, reflects no credit on any one, and there is always a risk of grave consequences to patient and doctor.

#### THE WAY SOME "POPULAR" DOCTORS GET PATIENTS

"Steerers" who, for a consideration, solicit patients for certain doctors, have been found to be so numerous in some states, that, according to *The Panel*, published monthly by the Association of Grand Jurors of New York County, "the legislatures of nine states have passed legislation making it punishable by fine or imprisonment or by revocation or suspension of license for a physician to employ *cappers* or *steerers*. Specific legislation on the subject is found on the statute books of California, Colorado, Idaho, Iowa, Michigan, Louisiana and Oklahoma, as well as other states. The laws of the State of Michigan, for instance, provide that 'employing or being employed by a capper, solicitor or drummer for the purpose of procuring patients or subsidizing any hotel or boarding-house with a like purpose, or paying or offering to pay any person money or any other thing of value with a like purpose' is punishable as a misdemeanor. In Iowa any 'immoral, unprofessional or dishonorable' conduct which includes 'the solicitation of professional patronage by agents or persons popularly known as *cappers* or *steerers* or profiting by the acts of those representing themselves to be agents of the licensee' is finable from \$100 to \$1,000 or up to six months in jail or both."

In general, we are energetically opposed to adding to our already far-too-long list of laws; notwithstanding this, however, to a legislator who proposed such a law for North Carolina, we would lend an attentive ear.

There are many rumblings, particularly as regards the character of service rendered and charges made by doctors summoned to hotels which have no house physicians, on the recommendation of clerks.

Strangers who become ill in a hotel are practically at the mercy of the clerk on duty, and every reasonable provision should be made to the end that doctors be recommended solely because of their ability and honesty. This can not be the case when the judgment of the one making the choice is

<sup>1</sup>On the Signs of. and Tests for, Drunkenness, Andrew J. Currie, M.D.



warped by the fact that he is a secret employe of a dishonest doctor; moreover, doctors who pay clerks or other cappers commissions or regular stipends are unsafe medical advisers.

Doctors who own stock in hotels can well take up this subject with managers or bring it before stockholders' meetings, and all of us can use our influence with right thinking owners and managers who have never happened to think along this line.

## SUMMARIES OF TWO HIGHLY INSTRUCTIVE STUDIES IN TUBERCULOSIS

### I. DURATION OF LIFE IN PHTHISIS WITH CAVITY, BARNES AND BARNES, IN *Am. Review of Tuberculosis*, OCTOBER.

#### 1. 1,454 cavity cases are reviewed:

80 per cent died within	1 year
82 per cent died within	2 years
85 per cent died within	3 years
90 per cent died within	5 years
95 per cent died within	15 years

2. The average duration of life of 270 cavity cases, from the appearance of the cavity signs to death, was 15.8 months. Had the remaining survivors died the day the statistics were compiled, it would have raised the average duration to 24 months.

3. Ninety-nine per cent of 616 cavity cases diagnosed by x-ray had tubercle bacilli in the sputum.

4. A family history of tuberculosis, a history of hemoptysis, or the age of the patient, did not materially affect the prognosis.

5. Only 1 of 57 colored patients survived three years.

6. The average duration of life was 16 months in males and 14 months in females.

7. The percentage of survivors after three-year and five-year periods, among patients with pulse under 90, was five times as great as among patients with pulse over 100.

8. The percentage of one-year survivors was over three times as great, and of five-year survivors eight times as great, among patients with temperature under 99 degrees, as among patients with temperature over 100 degrees.

9. Right-lung cavity-cases had slightly more survivors and lived slightly longer than left-lung cavity-cases.

10. The percentage of one- and three-year

survivors was in direct relation to the amount of pulmonary disease.

11. The duration of life bore a direct relation to the number of cavities. Of 17 cases having more than 3 cavities, none survived a year.

12. Eighty-eight per cent of patients having cavities larger than 7 cm. died within a year.

13. Small cavity-cases (1 to 2 cm.) have about 50 per cent more survivors at the end of the first year than have large cavity-cases (2 to 15 cm.), but 82 per cent of the small cavity-cases died within 3 years.

14. Honeycomb cases are about as serious in outlook as cases with cavities of average size.

15. Patients with well-formed cavity-walls had a slightly longer duration of life.

16. Patients with well-marked x-ray evidence of calcification had a greater percentage of survivors.

17. Patients with x-ray evidence of pleural thickening over the greater part of one lung had a higher percentage of survivors.

18. Of the 1,454 cavity-cases reviewed, 1,244, or 85 per cent, are dead and the average duration of life was 12, plus, months.

### II. THE SIGNIFICANCE OF SPUTUM FINDINGS, PINNER AND WERNER, *ibid.*

1. In a study of more than 500 adult patients with active pulmonary tuberculosis tubercle bacilli were found in the sputum in over 99 per cent.

2. The absence of tubercle bacilli in the sputum of patients with pulmonary tuberculosis almost always indicates healing.

3. "Negative sputum" has a much greater diagnostic and prognostic significance than represented by the usual textbook teaching.

4. Every sanatorium could well invest in facilities for the complete examination of sputa from all patients.

A MALARIA SURVEY, probably the most extensive and one of the most important of the kind ever undertaken, is now under way in Virginia to determine the status of the disease, malaria, in the state, and particularly in the Tidewater section.

Plans for the survey provide for the examination of at least 10,000 persons, with studies to be made in some ten or more counties.



## DEPARTMENTS

### HUMAN BEHAVIOR

JAMES K. HALL, M.D., *Editor*  
Richmond, Va.

#### AEQUANIMITAS

The quadrennial national excitement to which the American people subject themselves causes the onlooker from the sidelines to appreciate with increasing keenness the comfortable state of that citizen who can maintain throughout it all that unperturbed condition of the emotions that the old Romans and Dr. Osler spoke of as *aequanimitas*. I can think of many things as possessing reality that I do not understand. Under ordinary circumstances I have the ability which enables me to distinguish the live object from the dead object; but I do not know what life is, nor what death is, except in terms of negation. Health would seem to be a reality, and so would sickness, but I can neither define nor grasp fully either state. Light is a reality, and darkness, too, and pain, and gravity, and the wind. But I am scarcely able to comprehend any one of these phenomena.

The intellect—the human mind—must be a reality. And so must be also one's emotional state—one's feelings. One's mind is one's most distinctive, most unique, most priceless, most individualistic possession. My liver, my heart, my lungs, my kidneys may be indistinguishable from those same organs in my neighbor, but my mind is my very own. It has an individualism that makes it unique. My own mind is not like the mind of any other human being. Because the universe in which one lives is largely a projection from one's own mind it would follow that no two human beings live in the same world or in two worlds that are altogether alike. But that fact gives to life its infinite variety, as well as its discords, disagreements, antagonisms, and hatreds.

The tendency to guard the physical being and to protect it from assault, even from the risk of attack, would seem to be instinctive. The operations of such self-defensive mechanisms are seen in the lowliest forms of animal

life. The lower forms of animal life instinctively take better care of their physical beings than man exercises over his body. Self-protection is not dependent upon mentality. Man's mind often leads him into danger, rather than away from it.

But man's poor care of his physical being is superior to the care that he bestows upon his intellect and upon his feelings. Many individuals of rather high intellectual endowment would seem to give more careful attention to the nutritive material offered to their bodies than to the sustenance they provide for their mentalities and their emotions. For the past several weeks the American people have frequently been asked to read and to hear, both from the political rostrum and from the radio, appeals from this or that party that were unworthy the dignified attention of rational individuals. A national political campaign offers a splendid opportunity for the instruction of all the citizens in the science and the art of government. But at the close of the present campaign the people at large have little more familiarity with the fundamental issues than they had on the first of May. Misrepresentation has often been proffered as a substitute for information; prejudices have been purposely provoked, fears aroused, and hatreds intensified. A national campaign should be a period of great educational enlightenment in civic affairs. It should afford each individual citizen the opportunity to make a dispassionate and philosophic study of the issues at stake. But instead of having a great clinic in political philosophy every four years we permit ourselves to be subjected only to a great emotional upheaval. Too frequently we allow our intellects to be insulted and our feelings to be outraged. Too often the hand that casts the ballot is moved by feeling unguided by rational thinking. The mental state and its accompanying emotion are as real as any part of the physical being, and as worthy of prudent care and protection.

The law regards as of exceeding great value to me my neighbor's good opinion of me.

What my neighbor thinks of me is my reputation: that opinion held of me by my neighbor is valuable to me. It has money value. If some one attempts to tarnish or to destroy that good neighborhood opinion of me the law comes to my succor and offers me help through action for libel or slander. But no law, no enactment, no agency save my own self can encourage the growth of my character or afford protection to it. Character is what I really am without reference to the opinion of another. If I am capable of acting as a free agent, which I doubt, I am at liberty to make my character either good or bad. In this domain the law is helpless; with reference to the treatment of myself by myself I am an absolute autocrat. Daily and hourly I can insult my intelligence and harass my feelings. But it is an amazing and an incomprehensible fact that many of us court rather than resent an outrage upon both of these priceless personal possessions. Outside of the school-room and the church little rational effort is made to encourage constant growth of the mind and control of the emotions. For that reason, perhaps, we seldom encounter individuals who exhibit much mental development after the thirtieth year. They live anchored by their ignorances or tossed about by their emotional storms. They know nothing of the pleasures of contemplation or the serene comforts of the state known as equanimity.

---

## PEDIATRICS

For this issue, G. W. KUTSCHER, JR., M.D.  
Swannanoa, N. C.

### GLIMPSES INTO THE EVOLUTION OF PEDIATRICS

Certainly more has been written about the child in the last half century than in any other period of history. Almost every periodical today attests the trend of literature concerning child welfare. Some time between 110 and 130 A.D., Rome became the home of the most renowned of the earliest obstetrician and pediatrician, Soranus of Ephesus. This great man was the author of a work which very closely resembles our modern interpretation of child nursing. Aside from a few modifications, his writings could well be used today as text-book material. Hippocrates makes mention of the child and the treatment of his ills, as do other ancient au-

thors, but strange to say the early Greek and Roman literature is almost devoid of references to child welfare. With the advent of the Christian religion, came the first real parental appreciation of childhood. History tells us that prior to that era, children were murdered by their parents for the sake of convenience without any idea on their part of being criminal. [Ancient history, religious and lay, for thousands of years B. C., is replete with evidence that men the world over set far greater store by their children than by their wives.—J. M. N.]

The word *pediatrics*, meaning the science of healing children, is derived from two Greek words, *paidos*, the genitive of *pais*, meaning child, and *iatrike*, meaning the science or art of healing. Bartholomeus Metlinger (1473) and Paolo Bagallardo (1487) are given credit for the first printed literature on the subject of pediatrics. Another century passed before anything else was published on this branch of medicine. Walter Harris, Michael Underwood and Edward Jenner added to the literature on children's diseases in the 18th century.

The nineteenth century brought literature from France, Germany and England. Dr. Abraham Jacobi (1830-1919) was the chief instigator in having pediatrics taught as a separate study in the New York Medical College in 1860. He also founded the American Pediatric Society and served as its first president. Harvard followed next with a chair in pediatrics. Today the subject is taught in all medical schools, and journals are published in all the important languages on the face of the globe.

In 787 A. D. a foundling asylum was founded by Archbishop Dartheus of Milan. It was primarily for illegitimate children. In 1420 that famous institution of its day, the Hospital of the Innocents, was founded by Della Robbia Bambinos. The first hospital founded for the treatment of children exclusively was organized in London by Dr. Geo. Armstrong. As the literature became more voluminous, so did the hospitals for children become more numerous. Chas. Dickens' reputation for interest in children needs no discussion. He practiced what he wrote by greatly assisting Dr. Chas. West in organizing the Great Ormond Street Hospital in London.

The United States was late in establishing hospitals for the care of sick children. The first institution of this sort in this country was opened in Philadelphia in 1855. The present Babies Hospital in New York City was established in 1887. What large city today is without its children's hospital?

I can not do better than to conclude with a statement made by the late L. Emmett Holt: "There is no more promising field in medicine than the prevention of diseases in childhood. The majority of the ailments from which children die, it is within the power of man, in a great measure, to prevent."

---

## EYE, EAR, NOSE AND THROAT

For this issue, V. K. HART, M.D., Charlotte

### EARACHE NOT DUE TO LOCAL INFECTION

The complexity of the nerve supply explains the number of cases of otalgia in or about the ear which are of distant origin. The tympanic plexus is formed by Jacobson's nerve from the petrous ganglion of the ninth, the small deep petrosal from the carotid sympathetic plexus and branches from the seventh.

Thus any lesion in the throat or nasopharynx, affecting the ninth nerve, will give pain in the ear. This is very common after tonsillectomy. Glossopharyngeal neuralgia is commonly accompanied by earache.

From the facial arises the great superficial petrosal (so-called motor root of Meckel's ganglion), which combines with the great deep petrosal of the carotid sympathetic plexus to form the Vidian nerve which passes to the sphenopalatine ganglion. A few fibres of the maxillary division of the fifth (so-called sensory roots of the ganglion) pass around and through the ganglion. This ganglion about which much has been written, then, has at once connections with the cervical sympathetic chain, the fifth and the facial *via* the Vidian.

An intranasal or sinus condition may irritate Meckel's ganglion. Because of the above connections there may be pain in and about the ear, and behind the ear. One such patient is recalled who was sent in with a diagnosis of mastoiditis and in whom the drum had been opened. Simple cocaineization of the nasal ganglion relieved the pain at once.

Later, intranasal therapy completely alleviated the condition.

A very common cause of otalgia is an impacted wisdom tooth. Otalgia may also occur following extraction. This is explained by the connection of the fifth with the seventh *via* Meckel's ganglion. The auriculotemporal branch arises from the third division of the fifth, and this is another source of referred pain.

The far-reaching ramifications of the sympathetic are not to be discounted. A patient had intense earache relieved partially by cocaineization of the ganglion and without any local ear pathology whatsoever. Two injections of the sphenopalatine ganglion gave only temporary relief. A pelvic operation was then done and the otalgia disappeared. [*Post hoc, ergo propter hoc?*—Editor.]

With such anatomical facts as here outlined, it is difficult to admit a true so-called "ganglion neurosis." Usually some pathology, nasal or more distant can be found. The pain in the ear is relieved by cocaineizing the ganglion probably because a block is produced in the path of nerve impulses whether centrally or peripherally directed.

Arnold's nerve, a branch of the tenth, which traverses a small canal in the temporal bone, communicates with the facial and ultimately supplies the posterior auricle and posterior inferior portion of the external auditory canal. The second and third cervicals supply a posterior auricular branch to this region; therefore a piece of wax in the canal may produce cough or pain. Carcinoma of the larynx commonly produces otalgia *via* the tenth nerve.

A symptom of such far-reaching importance is not to be lightly treated and deserves every consideration from any doctor.

---

## ORTHOPEDIC SURGERY

O. L. MILLER, M.D., Editor  
Charlotte, N. C.

### FRACTURES OF THE ELBOW, THROUGH OR NEAR THE LOWER EPIPHYSIS OF THE HUMERUS

In the October issue of the *Journal of Bone and Joint Surgery*, Eikenbary gives an interesting, and always timely, discussion of elbow joint fractures. He finds it almost axiomatic that the end result, or at least the rapidity with which the end result is obtained in an



elbow fracture, is in direct proportion to the nicety of the reduction. This obvious fact is all too frequently overlooked. Every poor result has shown a failure to obtain a good reduction, every poor result showing a posterior displacement of greater or less degree. It should be borne in mind most constantly that the lower epiphysis of the humerus points downward and forward at about an angle of forty-five degrees. It does not continue in a straight line with the humerus. To leave it in a straight line, or with a backward displacement, almost inevitably leads to limited motion, and not infrequently to Volkmann's contracture.

"A good radiograph should always be made before any attempt at reduction. Reduction is certainly best carried out under a general anesthetic. If reduction is not complete, another attempt should be made.

"The statement is occasionally made that this type of fracture can be reduced by acutely flexing the forearm. This is far from the truth. Flexing the forearm, without at the same time reducing the posterior displacement, will merely rotate the lower fragment on a transverse axis. Flexion will readily hold the reduced fracture, but it will not accomplish reduction.

"The lower, posteriorly displaced fragment is practically an integral part of the forearm. Therefore, the forearm and the lower fragment, are acutely angulated backward, markedly increasing the deformity. Traction is then made downward and forward, at the same time flexing the elbow. This procedure unlocks the serrated ends of the fracture, and enables the operator to bring the lower fragment into correct anatomical position in its relationship to the humerus. A similar manipulation will accomplish the lateral reduction. The elbow now being flexed, and the fracture reduced, it is retained in that position by whatever means the operator may have at his disposal. The author uses a plaster mold, but there are various splints that will answer equally well.

"Following the reduction, and application of the splints, a point is made of insisting that the child stay in touch with his doctor for the first few days.

"Volkmann's contractures are entirely too frequent, and the best way to prevent their occurrence is by being in very close touch

with the child, so that the splints can be readjusted at the first warning. A few hours of neglect may lead to a condition that can never be repaired.

"Within a week very limited passive motion may be started, always guarded, and never to the point of causing real pain. By three weeks, the splints may be discarded, and a simple sling substituted. Usually the sling may be discontinued by the end of four weeks. Formerly a great deal of physiotherapy was used, but the author is using less and less, and depending more and more upon the active movements of the child. Incidentally, there is absolutely no indication for forcibly moving the elbow while the child is under an anesthetic. This treatment is probably the very worst procedure that could be carried out, and contrary to all experience and all pathology. Within the past three years, the author has seen twenty-one cases of Volkmann's contracture, a rather large number. Every case, without a single exception, has shown a persistent posterior displacement. Either the epiphysis has been left in a position of a straight line with the humerus, or was occupying a position somewhat posterior to the humerus. All the cases gave a history of having the arm put up in rather acute flexion, and of having a great deal of pain following the application of the splints. Undoubtedly, a Volkmann contracture may occur from other injuries, and undoubtedly it may occur in cases where no splints have been applied, but all the instances of Volkmann's contracture which the author has seen have been in those of persistent posterior displacement, and where the elbow has been splinted in acute flexion,—acute flexion with the fracture unreduced."

## UROLOGY

*For this issue, T. McC. DAVIS, M.D.,  
Greenville, S. C.*

### NEOARSPHENAMINE AS A URINARY ANTISEPTIC

I write this article because of my realization of the tendency of many to treat urological conditions without a thorough urological examination. This tendency is, I am glad to know, slowly passing. It is, however, still entirely too prevalent. I wish also to call the attention of the profession to a drug which will in the proper cases give almost



magical results. Let me urge the necessity of an accurate diagnosis in all cases. The failure to properly diagnose and correct pathological conditions such as ureteral strictures, kinks of the ureter, ureteral calculi, renal calculi, obstructive lesions of the lower urological tract, and numerous other conditions, will predispose and often cause a recurrence of the infection. Location and removal if possible of the primary foci is of course of utmost importance.

The drug I wish to direct attention to is neoarsphenamine, which, given intravenously in 0.6 gram doses, will cause the disappearance from the urine, usually within twenty-four hours, of all Gram-positive microorganisms and practically all pus cells. This result will be noted regardless of the duration of the infection, the number of organisms, or the number of pus cells present in the urine. There will also be a prompt relief of symptoms. Usually within several hours there will be a marked relief from pain, especially in acute cases with marked vesical irritability and tenesmus, and, if there is fever, a marked drop in temperature.

Allow me to impress upon my readers the futility of using this drug in cases infected with Gram-negative microorganisms. In these it is without appreciable benefit, therefore it should not be used indiscriminately.

No doubt many will be sceptical of the results I have obtained with the use of this drug; all that is necessary to convince one is a fair trial in the proper type of case, when he will be astounded with the rapidity of results.

I make no claim for priority in the use of this drug in the urological tract; but, having used it with such success in seventy-seven cases—sixty-four *staphylococcus albus*, six *staphylococcus aureus*, three *streptococcus*, four Gram-positive bacillus—without a single failure, I wish to urge that it be more generally used. I will report two cases illustrative of results obtained.

*Case 1*—A white man, 28, manufacturer, complained of marked frequency, voiding every fifteen minutes, pain in both sides of back, chills and fever. General and venereal history insignificant. Present illness began two weeks ago with frequency, tenesmus and urgency. He had to void every hour during the day and slightly less at night, had been

given different medicines by his physician with some relief for several days; two days ago the frequency, urgency and tenesmus increased with a chill of about ten minutes' duration, pain in the lumbar region and increased pain in the pubic region after voiding, temperature following chill 103 F. Patient has to void every fifteen minutes and says he voided fifty times last night. There has been some blood-specked mucus in the urine for the past twenty-four hours.

General examination showed temperature 102.2, pulse 112, respiration 26 (three p. m.), head, chest and heart negative except for increased rate of heart, abdomen tender over pubic region and along the course of both ureters, and both kidneys tender, genitalia and extremities normal.

Urological examination showed urine cloudy with blood-tinged mucus floating in sample, sp. gr. 1020, reaction acid, heavy ring of albumin, no sugar. The microscope revealed pus cells, red blood cells, Gram-negative cocci. Prostate was normal to palpation, secretion showed few pus cells and red blood cells (probably from urine). The cystoscope revealed a bladder capacity of 150 c.c., mucosa markedly inflamed with many areas of submucous hemorrhage, no definite ulceration, both ureteral orifices edematous and inflamed, both ureters free from obstruction, urine collected from each kidney contained pus cells, Gram-positive cocci. Pthalein appeared in 3 minutes from each side, total 15 minutes 15 per cent each side, culture showed *staphylococcus albus*. A diagnosis was made of bilateral pyelitis and cystitis. Treatment: neoarsphenamine 0.6 gram dose was given intravenously at 5 p. m., and the patient advised to drink copiously of water. He reported the next afternoon at three. His frequency had continued until midnight; from twelve until seven he had to void four times; after seven three times. There was no tenesmus or pain on voiding, temperature was 98.3, pulse 80, respirations 20, voided urine clear, light yellow, free from flocculent material, sp. gr. 1010, no albumin, no sugar, reaction slightly acid, a few pus cells, stained specimen negative for microorganisms. Two additional doses of neoarsphenamine were given at three-day intervals. At the end of forty-eight hours his urine was negative, a culture was negative, and there has been no

recurrence.

**Case 2**—A white housewife, 51, complaining of pain in the right side and back of several years' duration, intermittent periods of severe pain in this side. History unimportant. Present illness is continuation of complaint in the right side and back; the attacks have been severe and required opiates for relief, this pain radiated to lower abdomen, accompanied by vomiting, chills and fever. She has been treated by a number of physicians. The pains are more constant now but not so severe; during attacks there is frequency of urination. Patient has had one child who is twenty years old and in good health. Menses regular and free from pain.

General examination showed obesity, temperature 98.3, pulse 86, respiration 24, head, neck and lungs negative, heart slightly enlarged sounds regular and normal, abdomen negative. There was tenderness over right kidney, patient too fat to make a satisfactory pelvic examination, uterus and adnexa appear normal, blood pressure 190/105.

Urological examination: genitalia normal, urethra slightly inflamed, bladder mucosa chronically and generally inflamed, ureteral orifices normal, no obstruction in either ureter, wax tip scratched on right, no residual urine in either pelvis.

Bladder urine amber, slightly cloudy, sp. gr. 1018, trace albumin, no sugar, some pus cells, Gram-positive cocci. Right and left kidney urines contained pus microorganisms; phtalein appeared—right 4 min., left 3½ min. Total 15 minutes, R. K. 12½ per cent, L. K. 17½ per cent; culture both kidneys *staphylococcus albus*.

X-ray shows a large branching shadow in region of right kidney, pyelogram obliterates this shadow and shows slight clubbing of the minor calyces. A diagnosis was made of bilateral pyelitis and large renal calculus in right renal pelvis. Treatment: This case was first seen before I began the use of nearsphenamine and lavage was done several times in an attempt to clear up the infection as much as possible prior to operation, especially in the left kidney. Nephrotomy was performed by a surgeon, and a large calculus removed from the pelvis of the right kidney.

Two weeks following operation the urine was still badly infected, the operative wound had healed satisfactorily, lavage of both renal

pelves was instituted and the entire repertoire of agents usually employed in lavage was used without completely eliminating the infection, adequate drainage was assured by ureteral dilatation, these treatments continued until both the patient and doctor despaired of eventual cure. I began the use of nearsphenamine with such impressive results in a few acute cases, that this patient was given 0.6 gram. Twenty-four hours after the urine was negative to pus cells or microorganisms and has remained negative. Two additional doses were given at three-day intervals. This patient's urine has been checked over a period of two years for infection, with negative results.

The above two cases illustrative of the results I have obtained with this drug will, I hope, cause a more general use of it in suitable cases.

## SURGERY

GEORGE H. BUNCH, M.D., *Editor*  
Columbia, S. C.

### TULAREMIA

At the 1928 session of the American Medical Association in Minneapolis a gold medal was awarded Simpson, of Dayton, Ohio, for his exhibit of the gross and microscopical pathology of tularemia, a new disease which is probably destined to become more common in this territory.

Martin, an ophthalmologist of Arizona, in 1907 treated five cases of fever which he attributed to infection from skinning rabbits. In three of the patients the eye was primarily affected. In 1910 Pearse, of Utah, reported nine cases of fever following the bite of a blood sucking fly found about horses and cattle in the northwest and commonly known as the deer-fly. In 1911 McCoy and Chapin, of the U. S. Public Health Service, investigated an epidemic or plague in ground squirrels in Tulare county, California, and identified from the dying animals a small non-motile, Gram-negative organism named by them *bacterium tularense*. In 1919 Francis, of the U. S. Public Health Service, isolated *bacterium tularense* from men with deer-fly fever and thus proved that disease in the human identical with the rodent plague caused by *bacterium tularense*. In his investigation Francis himself contracted the disease and

called it tularemia.

In the west the disease seems to be transmitted from rodents to man by the bite of the wood-tick and of the deer-fly. In the East infection has come from skinning or dressing rabbits. In Dayton cases of rabbit fever have been known among market men handling rabbits for 25 years. The disease is widespread, cases having been reported from practically every state of the union except those of New England. Nine cases with one death have been reported to the South Carolina State Board of Health for the first six months of 1928. Twenty cases have occurred in laboratory men studying the disease. There has been no case reported of the disease being acquired by eating the meat of rabbits infected with tularemia. No case of infection from person to person has been reported and infection from rabbit to rabbit is by means of flies or other blood sucking insects. In the West the disease is more common in summer, when the tick and the deer-fly are plentiful. In the East most of the infections occur in winter after the crops are harvested and rabbit hunting is general in the rural districts.

In a study of 679 case reports Francis, in the *Journal of the American Medical Association*, October 20, 1928, recognizes four clinical types of tularemia.

1. The ulcero-glandular is the most common type and 455 of the cases are classified under it. The patient within 48 hours after the onset of the disease complains of pain and tenderness in the lymph glands draining the site of the infection. Within another 24 hours there is a painful inflamed papule at the site of infection which breaks down and leaves a punched-out ulcer with raised edges and a foul discharge. There may be red streaks up the arm. In about half the cases the involved lymph glands suppurate and in the other half the glands do not break down but remain hard and tender for several months. Only the glands in the region of the focus of infection are usually involved. Prostration with fever and chills occurs during the active stage of the disease which lasts two or three weeks.

2. The oculo-glandular type in which the primary lesion is of the conjunctiva instead of the skin consists of 32 cases, infection of the eye being caused by scratching with the

fingers after dressing rabbits. There is conjunctivitis with a papule on the lower lid and swelling and tenderness of the cervical lymph glands. There is fever and in severe cases convulsions and stupor.

3. The glandular type of 25 cases differs from the preceding types in having glandular involvement without ulceration or other evidence of infection on the hands or at the place of primary infection.

4. The typhoid type of 28 cases is peculiar in that there is fever and prostration without either ulceration at the place of infection or involvement of the lymph glands draining the region.

Twenty-four of the 679 patients died, the cause of death being, in the order named, pneumonia, meningitis, peritonitis and coma with albuminuria and casts.

In diagnosis Francis stresses the tetrad: 1. history of skinning a wild rabbit or of fly bite; 2. papule followed by skin ulcer at the primary focus or of conjunctivitis and ulceration if the lesion be in the eye; 3. enlargement of the regional lymph glands draining the site of infection; and 4. general weakness and fever for two or three weeks. The diagnosis is proved by the agglutination of *bacterium tularensis* by the patient's blood serum taken the second week of his sickness, or by isolation of *bacterium tularensis* from guinea-pigs inoculated from the primary lesion or from the enlarged lymph gland of the patient the first week of the disease. For diagnosis the blood is drawn as for a Wassermann test and must be sent to some laboratory having cultures of *bacterium tularensis*. In South Carolina the blood is sent to the U. S. Public Health Laboratory in Washington for examination.

An attack of the disease probably confers lifetime immunity. Prophylaxis is the most essential part of the treatment. Those eating wild rabbits should be sure that the meat is well done because *bacterium tularensis* is readily killed by heat. Those skinning or dressing wild rabbits should wear rubber gloves. The treatment of the patient after the disease has developed is largely symptomatic. Rest in bed is most important. The surgical treatment consists of incision and drainage only after lymph glands break down and suppurate. Incision and excision of infected glands during the active stage of



typhoid causes a return of constitutional symptoms with prolonged suppuration.

The disease is self limited and the treatment consists of rest and support until the disease has run its course and immunity has developed.

## PERIODIC EXAMINATIONS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*

High Point, N. C.

### DEFECTS FOUND BY HEALTH MAINTENANCE BUREAU EXAMINATIONS

The recently created Life Extension Unit of the State Board of Health has had its name changed to Health Maintenance Bureau. This seemed wise for a number of reasons. In the first place, mere length of days is not necessarily a great desideratum—the maintenance of health and happiness is vastly more important, and is the real goal of the department, the extension of the span of life being merely one of the by-products of its work, though a highly valuable by-product assuming that, at the same time, the lengthened life is a more healthy, efficient and happy one. In the second place, the name "Life Extension Unit" caused confusion in the minds of many with a particular private organization in New York City, the Life Extension Institute, with which our bureau has no connection.

We have recently been taking stock of the clinical work of the past eight months and are rather amazed at even our own statistics. The examinations have not been many, but they have been fairly careful and thorough, as careful and thorough as we could make them, and have been in the nature of clinical demonstrations, rather than mere routine examinations.

In 271 health examinations we have discovered 911 defects, an average of approximately 3.36 defects per person examined. This illustrates one of the most outstanding facts of health examination work, viz., that multiple diagnoses are the rule. In dealing with an acute illness it is, of course, the rule wherever it can be done, to try to fit all the symptoms into one diagnosis, and this is usually possible, but in health examinations, the reverse is true.

A general classification of the defects noted is as follows:

Skin 51; eye 97; ear, nose, sinuses, and throat 72; teeth and tongue 84; bronchi and lungs 26; blood 29; circulation 44; marked defects of posture and spine 3; abdomen 83; rectum 37; urinary organs 36; male reproductive organs 41; female reproductive organs 30; metabolism 88; endocrines (including diabetes) 16; extremities 71; nervous system 10; harmful habits 75; abnormalities recognized but undiagnosed as to disease producing them (e. g., albuminuria of unknown origin) 18.

The most frequent defect noted was eye-strain, involving 87 persons, or about 32.1 per cent of those examined. A close second was defective teeth, 84 cases or 31 per cent. Obesity ranks a poor third, with 42 cases, or 15.5 per cent. Other defects involving over 5 per cent of all examined are as follows: malnutrition 13.3 per cent, internal hemorrhoids 12.2 per cent, chronic infected tonsils 12 per cent, corns and painful callouses of feet 11.2 per cent, chronic appendicitis 9.6 per cent, a hypertrophied prostate 8.9 per cent (about  $\frac{3}{4}$  of all persons examined were males, and the majority middle-aged), excessive tobacco 8.5 per cent; secondary anemia 7.8 per cent, chronic gall-bladder disease 5.5 per cent, chronic cystitis 5.5 per cent, excessive hours of work 5.5 per cent.

Further details and an analytical interpretation of our figures are being prepared, and we hope to follow these introductory tables with a series of editorials seeking to learn the meaning of the health conditions of our people. We have no data on venereal disease because in our work we did not stay long enough in one place to get Wassermann reports, repeated diagnostic prostatic massage, etc., though Wassermans were sent off by physicians with whom we worked, the reports going to them.

## OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*

Danville, Va.

### PUERPERAL INFECTION

A review of obstetrical literature reveals that many women die from puerperal infection. These deaths constitute a heavy economic loss and sorrow and grief which cannot be estimated. These infections can be pre-



vented in great measure. We, therefore, hope that, by continuously reminding the profession and the public of this enormous waste of life and this unnecessary suffering, we, together, may assume responsibility for these infections and use all of our powers to prevent them. The morbid condition in thousands of women in the United States should be eliminated almost completely by the proper study of all cases of pregnancy and the instituting of proper preventive measures. If all the facts were found out about the many domestic difficulties that are arising daily, it would be revealed that these infections are primarily responsible for the misunderstandings and separations in many families.

Puerperal infections may be grouped as follows:

(1) Infections already in the body of the expectant mother at the onset of labor.

(2) Infections carried into the body by the attending physician or nurse, or someone else who is helping with the case.

(3) Mismanagement of the third stage of labor.

The first group is made up of such infections as these: badly diseased tonsils, infected sinuses, decayed and infected teeth, pyorrhea of the gums, latent infections of the lungs, gall-bladder infections and gall-stones, infected appendix, pyelitis, cystitis, latent gonorrheal infections, vaginitis, cervicitis and varicose veins. The attending physician, therefore, should investigate his patient most thoroughly for any and all of such infections and see to it that these infections have been cleared up before the onset of labor. Diseased tonsils and infected sinuses should have appropriate treatment; decayed and infected teeth and pyorrhea should be treated by the attending physician and a competent dentist; other special aid should be sought on the same basis. The danger of interference with pregnancy is not as great as one is made to believe, and the removal of a diseased organ makes it safe for the patient and assures the attending physician of getting through with his patient's delivery and the puerperium without complications. If the attending physician is not able to clear up a case of pyelitis and cystitis, he should apply to a urologist for assistance; vaginitis and cervicitis should be given most rigid and careful treatment, so that, before the onset of labor, the

attending physician is certain that there are no infections in the cervix or vagina; varicose veins should have either elastic stockings or proper rest instituted in order to prevent extreme conditions developing. If all of these measures are taken and the patient carefully observed, the attending physician will be able to bring his patient to labor in such condition as reduces the danger of infection to a minimum.

The attending physician is under obligation to observe all the principles of modern asepsis. The patient should have rigid preparation for delivery such as these: the lower bowel thoroughly emptied; the genitals either shaved or clipped and thoroughly cleansed with soap and sterile water, then the parts painted with 2 per cent mercurochrome, externally and in the vagina and around the cervix. All examinations should be made under the most rigid conditions and as few examinations be made as possible.

By proper management, infection in the third stage of labor can be almost entirely prevented. The uterus should be allowed to expel the placenta. If, after allowing time for this, the placenta is not expelled, then too great pressure should not be used on the uterus to expel the placenta. By the use of such pressure over the fundus of the uterus the cervix will be forced out of the vagina, and if the external genitals are not thoroughly clean the suction from the uterine cavity may draw up into it bacterial infections which will immediately begin their deadly process. In case of adherent placenta it is necessary to enter the uterus. The attending physician should be sure that the gloves he is using are thoroughly clean, that the vagina is mopped out again with mercurochrome, and that all gentleness is used. After the placenta is expelled, either spontaneously or by operative method, the vagina should be inspected to see if there are any lacerations. The cervix also should be looked at, and if there are any lacerations these should be repaired, observing all rules of surgical cleanliness. When this has been accomplished the patient can be removed from the delivery room to her bed.

A valuable measure in preventing puerperal infection is having the nurse daily insert into the vagina about one drachm of 2 per cent mercurochrome. This can be done by the

use of a catheter, being careful to insert it into the vagina after the parts have been thoroughly cleansed, letting the mercurochrome run through the catheter very slowly by the gravity method. The patient should be cleansed every three or four hours and sterile pads should be used each time.

If these measures are executed in each case we will be able to bring puerperal infections down to the minimum, we will prevent many deaths, and we will eliminate a large number of morbid conditions which we now have.

## NEUROLOGY

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston, S. C.

### A NEW CLINICAL TEST OF VALUE

In a recent number of the English neurological journal, *Brain*, Richard S. Lyman has written a very interesting article on ankle clonus, and particularly on a simple method of differentiating between organic and functional forms of this marked neurological phenomenon.

He points out that ankle clonus was first described about 1860 by the French. Charcot, that master of the nervous system, described it under the formidable name of "trepidation epileptoïde du pied." From the first, interest has centered about the question of whether clonus is found only in organic lesions, or whether, on the other hand, it may be elicited in functional disorders, such as hysteria and its allies. Gowers stated that it "occurs only in cases in which there is the strongest reason to believe that there is organic change." On the other hand, the eminent Englishman, Buzzard, said, "ankle-clonus, quite indistinguishable from that characteristic of lateral sclerosis, occurs in hysteria." Babinski stated repeatedly that a true, sustained clonus never occurred in hysteria. That genius in neurology believed that a keen and highly trained observer could always tell one from the other. He pointed out the difference in the rate, duration, and other finer points. It is unfortunately true that few physicians ever come to the stage of skill which the great Frenchman possessed.

A survey of the more modern literature, and more especially the work of the physiological laboratories, convinces Lyman that there still exists the indcision as to whether one can always tell by observation whether

an observed phenomenon is true organic clonus or some pseudo form depending upon a neurosis or perhaps conscious malingering.

Next Lyman refers more briefly to the withdrawal reflex. This is a reflex in which the flexors of the lower limb are called into play. It can be evoked by painful stimuli and also by proprioceptive, or muscle stimuli. He shows that this withdrawal reflex makes use of the muscles antagonistic to the strong extensor contraction which makes possible the ankle clonus of organic origin. It has been known in a sort of empirical way that the initiation of this withdrawal reflex will lead to the abolition of the clonus. A simple means of starting the flexor response is sharp plantar flexion of the big toe. Whether this acts as a painful stimulus or a proprioceptive stimulus is uncertain. Both elements may be present.

Lyman has tested a large number of cases presenting ankle clonus by making this sharp bending of the toe while clonus was being maintained. He has obtained consistent results, and he feels that this simple procedure is highly effective in separating doubtful cases of pseudo or hysterical clonus from the true organic variety. I am quoting a part of his summary.

"(1) Although usually associated with pyramidal lesions, sustained ankle clonus may have a physiological or 'functional' etiology.

"(2) A rapid and simple test is offered as a clinical aid in distinguishing the organic from the 'functional' types of clonus.

"(3) It consists of forcible plantar flexion of the homolateral hallux while ankle clonus is being maintained. If the clonus is checked, an organic lesion in the central nervous system is postulated. If it persists in spite of prolonged toe flexion it is probably 'functional' in origin."

The writer of this review has applied, with much interest, the simple test to all cases of clonus he has encountered since reading Lyman's article. So far the results obtained agree with the thesis, and it seems likely that a very excellent clinical test has been given to us.

### TOO RISKY FOR HIM

*Doctor:* "Tell your wife not to worry about her deafness, as it is merely an indication of advancing years."

*Husband:* "Would you mind telling her yourself, doctor?"—*Weekly Scotsman.*

## PUBLIC HEALTH

For this issue, RICHARD MESSER  
Chief Engineer, Virginia State Department of Health  
Richmond

### THE SANITATION OF THE RURAL HOME

Twenty-years ago typhoid epidemics outside cities were not uncommon, and typhoid rates in cities were much higher than in the rural districts. Since then, things have changed. Practically all of our cities now have water supplies which are purified by filtration and chlorination, or at least by chlorination. The household wastes are collected and carried away by systems of sewers. Milk is being more carefully looked after. In fact, people in our cities are protected against typhoid fever and the other filth-borne diseases through the activities of the health departments and those officials who supervise the water supply and sewage. Consequently the rates for these diseases at the present time are higher in the rural districts than in the cities.

In spite of all that has been written concerning the importance and need of good sanitation, the majority of the people living in country districts have failed to apply these principles at their own homes. The open bucket well is still one of the most common sources for drinking water; and open back privies far outnumber those of the sanitary types. Why do not people voluntarily remedy the conditions at their own homes instead of waiting until the county health officer comes along to point out the dangers? Some do, of course, but the great majority of our people in the country districts have not thought of these matters from the viewpoint that the cost involved for safeguarding the home water supply and for the sanitary disposal of the body wastes is the cheapest kind of insurance against sickness.

Bulletins describing how wells and springs should be protected, the construction of septic tanks and various kinds of outdoor toilets can be obtained from all State Boards of Health.

With regard to home water supplies, whether from wells, springs or cisterns, the owner should be able to tell from a careful inspection whether the water is reasonably safe or not. The first point is to note the location with reference to possible sources of pollution, such as privies, stables, etc.; also

the general slope of the ground which will give some idea as to direction of flow of the underground water. Then note the kind of soil, whether it is sand, sandy loam or clay. A sandy soil serves to filter polluting materials deposited on the surface, but seepage from a cesspool may flow for a considerable distance through sand without complete purification. If the soil is of clay, there is not much danger of contamination from privies and outbuildings because water flows very slowly through clay.

Some of the most common kinds of rock are sandstone, granite, shale, slate and limestone. Water from sandstone is most likely to be pure. That from limestone is most often contaminated. If the well is of the drilled type, find out whether the iron casing extends to solid rock and, if possible, whether the well driller took pains to drive the casing into the rock. Sometimes it is possible to detect the seepage of water through a leaky casing or poor joint between the casing and rock by a beam of light reflected into the well—or with a flashlight.

Dug wells should have a curb or lining which is water-tight for a depth of at least 8 feet and the top should extend at least six inches above the ground. The top should be absolutely tight. Whatever the type of well, whether drilled, bored or dug, the pump should be joined tightly to the top of the casing or set tightly on the well cover, so that drip water cannot get back into the well underneath the base. The so-called "pitcher" pump usually requires priming after a time and therefore should not be used, since the water for priming may be contaminated.

Practically the same requirements with regard to location, surface drainage and soil or rock formation as given above for wells apply to springs. In addition, the spring should always be enclosed and covered to effectively keep out surface wash. The cover should be kept locked and dipping from the spring should never be permitted. Instead there should be an overflow pipe conveniently placed so as to permit filling of pails or bottles.

*Thus the inspection of a well or spring is much more important than the bacteriological examination of the sample of water. The examination of a single sample during a year may even be misleading, because the water supply may not be polluted at all times, but*



only once in a while. If dependence is to be placed on bacteriological results, samples should be taken at regular intervals for several months and preferably during the wet season. If the results from such a series of samples are good, and the inspection fails to show any way by which the supply can become polluted, the chances are that the water is good. On the other hand, if one or more of the samples shows bad results an effort should be made to locate the source of the trouble.

In most instances, the health officer must depend on the laboratory examinations to determine whether the water from a limestone source is safe or unsafe. However, there are certain other findings which will give some indication as to the probable safety of the supply. If at any time the water becomes muddy, or "milky" or cloudy, it is an indication of the entrance of surface water. The sudden increase in the flow of a limestone spring after heavy rains to twice or three times its volume is also an unfavorable indication.

In trying to arrive at a conclusion as to the condition of a private water supply, the owner should keep in mind two things; first, whether the supply is being polluted at the time of inspection, and, second, what possibilities there are of its becoming polluted at other seasons of the year.

If the water is piped into the house, the problem of disposing of the house waste, in other words, the house sewage, without creating a nuisance and so there will be no menace to health, is often puzzling. Although much has been written concerning sanitary sewers and septic tanks, there are many people who yet have only a hazy idea of the subject, or else a wrong impression as to what a septic tank really is. First of all, it should be clearly understood that the septic tank by itself does not purify sewage, but merely gets the sewage ready for final disposal in the soil or on filters. The principal purpose of the septic tank, therefore, is to partially clarify the sewage by holding the solid particles which settle out in the tank. The sewage liquid as it leaves the tank may, and usually does, contain almost as many bacteria as the raw sewage which enters the tank.

Septic tanks of various shapes and sizes are made, according to the personal ideas of

various designers. The exact shape of the tank does not make very much difference, provided the tank has sufficient capacity. Some engineers prefer a septic tank with a single compartment, while others still believe that the two-compartment or even three-compartment tanks give better results. However, many health and sanitation officers in our counties are inclined to recommend tanks with liberal capacities, for the reason that the larger the tanks are made in proportion to the flow of sewage, the less often they will need cleaning. One rule is to provide a tank capacity of at least 50 gallons for each person served by the sewage system.

The most common way to take care of the outflow from a septic tank is to distribute it over an area of land by means of the agricultural drain tile. The reason why the liquid must be spread out in the soil only a short distance beneath the surface of the ground is because this part of the soil contains the thousands of bacteria which change organic matters into those kinds of food necessary for the growth of plants, grass and trees. By the top soil is meant the top twenty or twenty-four inches. Below that depth there are comparatively few of these bacteria.

The number of feet of drain tile required depends first on the nature of the soil and second, on the daily quantity of sewage to be cared for. It is obvious that a dry sandy soil will absorb much more sewage than a heavy impervious soil, such as clay. In the latter instance, the absorption capacity of the soil may be increased by laying the tile lines in cinder trenches. Under the most favorable conditions, where there is a light porous soil and the ground water level is several feet beneath the surface, 30 feet of tile for each person served by the system may be sufficient. In tight soils, which absorb sewage slowly, as much as 100 feet of tile per person may be required.

Septic tanks of various designs made of metal, tile and concrete are now being manufactured by commercial companies and shipped from the factory ready to be put into place. All of these tanks have their merits and apparently seem to be reasonably satisfactory for individual homes when properly installed and looked after. As a rule, however, the greater the capacity of the septic tank per capita, the less often it will need



cleaning. If the tank is too small, the settling capacity will be more rapidly reduced by the accumulation in the tank, and consequently some of the solid particles will flow through the tank and gradually clog up the

system of drain tile. Consequently the extra cost for installing a larger tank may more than offset the cost later of having to replace the drain tile.

---

## Miscellany

### DEDICATION EXERCISES THE NURSES HOME OF THE JOHNSTON-WILLIS HOSPITAL IN THE NAME OF LAURA STONEY DARLINGTON

On October 23rd, the recently completed nurses home of the Johnston-Willis Hospital, Richmond, Va., was dedicated to the memory of the hospital's first Superintendent of its Training School for Nurses.

Dr. Murat Willis, the only survivor of the three whose works have fruited into this great institution for good,—Dr. Geo. Ben Johnston having died in 1916 and Miss Laura Stoney Darlington in 1917—paid feeling tributes to his co-workers. He then asked Dr. James M. Northington, of Charlotte, N. C., to say something in this service. Dr. Northington responded:

The old Roman custom of having only friends of the dead speak in their funerals is one which we might well revive. What would be lost in rounded phrase and graceful period would be more than made up in genuineness of feeling.

She to whom we dedicate this hall and the great and good doctor from whose brain sprang the idea of this beneficent institution were my dear friends.

Thoughts of Dr. Johnston bring to my mind the marvelous tribute paid to William the Silent, "While he lived he was the guiding star of a nation; and when he died the little children wept in the streets."

Dr. Johnston often said that he was no judge of men but that he was a judge of women. He chose Miss Laura Darlington to superintend his Training School, realizing that without a superior person in this responsible position his life plans could not be consummated. How well he chose all of us know.

Miss Darlington influenced for good all those with whom she came into contact. The

inspiration of a lofty example was her way. Monuments to her memory are erected in the hearts of thousands, monuments which teach that we should not only be good, but be good for something. Her talent and training were such that she could have achieved fame by devoting her life to the Fine Art of Music; she chose, rather, the Useful Art of Nursing. Through her life in this calling those who worked with her have been moved to erect this monument to her memory, a fitting companion piece to the George Ben Johnston Memorial Hospital at Abingdon.

These things we do in their memories because they have left us the inspiring examples of their upright, uncompromising lives, and the precious heritage of friendship with the great and good.

Dr. Beverly R. Tucker followed with the Address of the occasion:

From time to time, throughout the ages, groups of people have gathered together to memorialize some one who has passed through the portals of mortal existence but who still lives, by the work which he or she has wrought, in the hearts of those who are left behind. For such a purpose do we gather here today.

Useless and beautiful memorials in masonry, in statuary and on canvas are scattered over the face of the earth. Much more rarely, the memorial continues and advances the work that was done by the one to whom it is dedicated. We must realize that there is a beauty in usefulness as well as in art. No more beautiful, no more useful, no more appropriate memorial could be made to Laura Stoney Darlington than this splendid nurses' home which we now dedicate, with high es-

teem and affectionate regard, to her memory.

A southern lady, daughter of an old and honored family, possessing the culture, the education and the graces which were her heritage, she gave up social ambitions and devoted her life to the profession of nursing. Shortly after the Johnston-Willis Sanatorium was organized in nineteen hundred and nine Dr. George Ben Johnston and Dr. A. Murat Willis, with rare discrimination, selected Miss Darlington to be superintendent of their training school, and in this position she served until her untimely death in nineteen hundred and seventeen. In these all too short years she impressed herself indelibly upon the memories of the doctors with whom she worked, upon the characters of the nurses she trained, and upon the hearts of the patients to whom she ministered. Miss Darlington instilled into others her high qualities of integrity, of service, and of refinement, until those who worked with her, or under her, became, in proportion to their ability to appreciate her, imbued with these lofty characteristics.

And so, as time has passed, her work has developed until it has culminated into this present great training school and into this beautiful nurses' home which has been built by her spirit just as surely as by the architects who drew its plans or by the masons who laid the bricks.

In this modern world of realism there has been a determined attempt to shut out sentiment; but sentiment still lives. It lives because it is eternal in the human breast. It lives because it binds mankind to all of the better things of the past. It lives because it forms the human ties of the present. It lives because it threads the stars of hope which mark the milky way that leads to future glory.

Sentiment has dedicated this edifice in the name of Laura Stoney Darlington. And over it hovers, and shall ever hover, her spirit; and within its halls shall linger, like a faint, sweet odor of the past, the sentiment of her ideal life, an inspiration to those who dwell for a time within these walls.

#### A PHILOSOPHER'S PLEA FOR A DOCTOR

*Medical Journal and Record*

Jean Francois Coste was chief physician of the French expeditionary forces in the Ameri-

can Revolution. In his early practice he attracted the attention of Voltaire by controlling an epidemic at Gex, which caused the writing of the letter which follows:

"A Monsieur le Duc de Choiseul.

"Request of the Hermit of Ferney presented by M. Coste, Physician.

"Nothing is more proper than the prayer of an old patient for a young doctor. Nothing is more just than an increase of a small salary when the work increases.

"My Lord knows perfectly well that formerly we had nothing but scrofula in the desert of Gex, and that since the troops came, we have something much worse (de plus fort). The old hermit who, to be sure, has received neither of these two blessings of Providence, but who is sincerely interested in those who are honored with them, takes the liberty of painfully and respectfully calling your attention to the fact that Sir Coste, our very amiable doctor who is planning to prevent us from dying, has no the where-withal to live, and that in this respect he is in a condition just the opposite of that of the great physicians of Paris. He begs Monseigneur to be good enough to take pity on a little district of which he is the only hope."

#### NINE MEDICAL COLLEGES PASS THE CENTURY MARK

This year the University of Pennsylvania School of Medicine begins its one hundred and sixty-third session; Harvard University Medical School its one hundred and forty-sixth; the University of Maryland School of Medicine and College of Physicians and Surgeons its one hundred and twenty second; Columbia University College of Physicians and Surgeons its one hundred and twenty-first; Yale University School of Medicine its one hundred and fourth; Jefferson Medical College its one hundred and fourth; the University of Virginia Department of Medicine its one hundredth; the Medical College of the State of South Carolina its one hundredth; and the University of Georgia Medical Department its one hundredth.—*Virginia Medical Monthly*.

#### BR'ER JONES SAYS—

Better watch de man what wears a chronic smile, ca'se life hain't so jolly as all o' dat, an' 'bout nine cases outen ten he's got a goodly po'shun o' de snake disposishun hid un'er his shirt, yes-sah, dat's a fact, hit sho' is.—*Stanly News-Herald*.

## REVIEW OF RECENT BOOKS

**DIAGNOSIS AND TREATMENT OF DISEASES OF THE STOMACH**, with an introduction to Practical Gastro-Enterology, by Martin E. Reh-fuss, M.D., Assistant Professor of Medicine at Jefferson Medical College. Octavo volume of 1,236 pages with 519 illustrations, some in colors. Philadelphia and London, W. B. Saunders Company, 1927. Cloth, \$12.00.

The author presents very exceptional opportunities for familiarity with the development of present-day methods in gastro-enterology, from their very beginnings, are reflected in the pages of this comprehensive work. The world has gone on apace from the time, not so many years ago, when it was frequently said a "stomach specialist" was one who washed out the stomachs of all his patients every morning as long as they could pay, then told them to keep up the washings at home.

The chapters on anatomy, embryology and physiology should be attentively read in order that the disease conditions may be understood. That on gastric technic is most elaborate. Great emphasis is placed on the difficulties of x-ray interpretation. Dr. Chevalier Jackson contributes a chapter on Gastroscopy, and Dr. John B. Deaver one on Gastric Surgery.

Perhaps the most striking feature is Part III's consideration of the relationship of the stomach to diseases of a score of other organs.

Throughout the use of italics for emphasis assists materially in looking for information and in fixing clear-cut ideas in the mind.

---

**A HISTORY OF PATHOLOGY**, by Esmond R. Long, Ph.D., M.D., Professor of Pathology, University of Chicago. The Williams & Wilkins Co., Baltimore, 1928. \$5.00.

It is a truism that pathology is the basis of diagnosis and treatment. It is true, though, that many "practical" men seldom or never read or listen to discussions of pathology, that they even prefer books which ignore it altogether.

A wise pathologist has said that Osler's "Practice of Medicine" is the best text-book on pathology for most doctors. The author well says "nothing gives a better perspective of the subject than an appreciation of the steps by which it has reached its present state."

The book is as fascinating a history of adventure and conquest as anything written about Columbus, De Soto or John Paul Jones; and the information is as solid and useful to a doctor as that of partial payments.

---

**SPASMOPHILIA**, by Edward C. Wrightsman, M.D., Former Clinical Assistant in Pediatrics, Northwestern University Medical School, Chicago. Richard G. Badger, The Gorham Press, Boston. \$2.00.

It is stated that this work is the result of fifteen years' observation of spasmophilia, and that it is intended for the general practitioner, with a view to calling special attention to the frequency of the condition.

Part I is on Rickets and Spasmophilia, and Part II on Infant Feeding.

Lack of sunlight is given as a much more important etiologic factor than lack of proper food, although "lack of certain vitamins plays havoc in babies."

Notes of ten cases are presented, followed with a general discussion. Certainly this is a subject of great importance to those who have any part in the care of the health of babies.

---

**THE MEDICAL RECORD VISITING LIST OR PHYSICIAN'S DIARY** for 1929, containing calendar; estimation of the probable duration of pregnancy; approximate equivalents of temperature, weight, capacity, measure, etc.; maximum adult doses by the mouth, in apothecaries' and decimal measures; prescriptions of narcotics; drops in a fluid drachm; solutions for subcutaneous injection; contagious diseases diagnostic table; miscellaneous facts; treatment of poisoning and other emergencies; artificial respiration; signs of death; hints on writing wills; table of signs; with visiting list with special memoranda for 60 patients per week. William Wood & Company, New York. \$2.00.



GOULD'S MEDICAL DICTIONARY, containing all the words and phrases generally used in medicine and the allied sciences, with their proper pronunciation, derivation, and definition, based on recent medical literature, by *George M. Gould, A.M., M.D.*, author of an "An Illustrated Dictionary of Medicine, Biology and Allied Sciences," "The Practitioner's Medical Dictionary," "Pocket Medical Dictionary," "Biographic Clinics," etc. Edited by *R. J. E. Scott, M.A., B.C.L., M.D.*, Editor of "Witthaus' Text-Book of Chemistry," "Witthaus' Essentials of Chemistry and Toxicology," Hughes' "Practice of Medicine," Gould's "Practitioner's Medical Dictionary," Gould and Pyle's "Cyclopedia of Medicine and Surgery," Potter's "Therapeutics, Materia Medica and Pharmacy," etc. Second edition, revised and enlarged, with illustrations and one hundred and seventy tables including a new one of micro-organisms, comprising sixty-eight pages, by *D. H. Bergey, M.D.*, Professor of Hygiene and Bacteriology, University of Pennsylvania. P. Blakiston's Son & Company, Philadelphia. \$7.00.

Gould's Medical Dictionary has established itself as a standard among English-speaking doctors. There are instructive "Notes Concerning the History of Lexicography"; which reminds that often the preface is the most valuable part of a book, and it is certainly the most neglected. And, of all books, a dictionary is the one, in which, if we would use it to most advantage, we should read what is written at the front.

Although meeting the necessity for making large additions of new words, space is still found for nearly 200 valuable tables.

A new, reliable medical dictionary must be at the hand of every doctor who wishes to get the meaning of the medical writings of the day. Gould's will supply his needs.

A POCKET MEDICAL DICTIONARY, giving the pronunciation and definition of the principal words used in medicine and the collateral sciences including very complete tables of the arteries, muscles, nerves, bacteria, bacilli, micrococci, spirilla, and thermometric scales, and a revised dose list of drugs and their incompatibilities, in the English and metric systems of weights and measures, based upon the tenth revised U. S. Pharmacopoeia; also a revised veterinary dose table, by *George M. Gould, A.M., M.D.*, author of "The Illustrated Medical Dictionary," "The Practitioner's Dictionary," etc. Ninth Edition Revised. Over 40,000 words. P. Blakiston's Son & Co., Philadelphia. \$3.00.

This is a small, elementary word-book, to be used for handy reference. Over 40,000

words are spelled, accented, pronounced and defined and the tables make a feature of value.

THE NEW POCKET MEDICAL FORMULARY, with an Appendix containing formulae and doses for hypodermic medication; posological table; obstetrical table; table of apothecaries' and metric system of weights and measures; fractures, dislocations and sprains; treatment of asphyxia and apnea; poisons and antidotes; tables of differential diagnoses, diet lists for various diseases; the physician's interpreter, in four languages, etc., by *William Edward Fitch, M.D.*, Late Major, Medical Corps, U. S. A.; Formerly Lecturer on Surgery, Fordham University School of Medicine; Assistant Attending Gynecologist, Presbyterian Hospital Dispensary; Attending Physician to the Vanderbilt Clinic, College of Physicians and Surgeons, New York City; Member of the International Society of Medical Hydrology, the Southern Medical Association, the Medical Association of Greater New York City; Fellow American Medical Association, etc. Fifth Edition, Revised and Enlarged. F. A. Davis Co., Philadelphia, 1928. \$3.00.

A synopsis of the treatment of conditions, from "Abortion" to "X-ray Burns" is given, with famous prescriptions in most cases. There are a few blank pages on which may be written others found useful. The special features enumerated under the title will serve useful purposes. The rendition of certain sentences in French, German and Italian, for the special use of doctors is a novel feature.

LABORATORY MANUAL FOR THE DETECTION OF POISONS AND POWERFUL DRUGS, by *Wilhelm Autenrieth, M.D.*, Professor in the University of Freiburg, I. B. Authorized translation by *William H. Warren, Ph.D.*, Professor of Organic Chemistry in Clark University, Worcester, Mass. 60 illustrations. Sixth American Edition from the Fifth German Edition, completely revised with extensive additions. P. Blakiston's Son & Co., Philadelphia. \$6.00.

Although this work is intended, primarily, for the chemist and toxicologist, every doctor is sufficiently concerned with both chemistry and toxicology as to find the information it contains highly useful.

Acquaintance with such a work would save many an expert witness mortification and promote the cause of justice. It would also keep doctors fully impressed with the possible ill effects of many of the agents we employ, and with the advisability of choosing, for ip-



stance, *procaine* rather than *cocaine*.

For the worker in a clinical laboratory of chemistry who has not had the extended courses in the subject of a professional chemist, the book will prove a delight from its habit of explaining, not only how to bring about a certain reaction, but why it comes to pass just as it does.

PREPARATION OF SCIENTIFIC AND TECHNICAL PAPERS, by *Sam F. Trelease*, Associate Professor of Botany in Columbia University, and *Emma Sarepta Yule*, Head Department of English of College of Agriculture of the University of the Philippines. Williams & Wilkins Co., Baltimore, 1927. \$1.50.

A plain, understandable exposition of a difficult subject, which gives reasons. It would be a fine thing if a copy were in the hands of every doctor who writes. It helps us to understand what we read. It would be hard to find a more appropriate Christmas present for any one of us.

TECHNIQUE OF CONTRACEPTION: The Principles and Practice of Anti-conceptual Methods, by *James F. Cooper, M.D.*, Medical Director of the Clinical Research Department of the American Birth Control League; Formerly Professor of Clinical Surgery, Foochow Union Medical College, Foochow, China; and Clinical Instructor in Obstetrics, Boston University Medical School. Day-Nichols, New York.

This is an intelligent attempt, made under great difficulties, to meet a very great need. The subject is introduced and discussed from a humanitarian viewpoint and in a scientific manner. Principles are laid down in a plain way. Many different methods are discussed and their good and bad features brought out. Many fallacies as to injurious effects, that are in common circulation, are exploded. "A new method for America" is carefully described.

The information contained in this book becoming a part of the stock of knowledge every young woman would make for racial and economic improvement; there would be more happy homes and less grist for our divorce mills.

#### THE DIFFERENCE

The modernists say, "There ain't no hell." The fundamentalists say, "The hell there ain't!"—*Washington and Lee Mink*.

#### THE AFTER-CARE OF INFANTILE PARALYSIS

According to the U. S. Public Health Service, after-care is probably the most important public health function in an outbreak of infantile paralysis. In most cases this falls best upon the parents, who must first be trained by the family physician. It is the experience of the most qualified observers that better results are obtained from the combination of physician and parent than where the management of the exercises have been left to an unskilled gymnast or masseur, who has neither the scientific knowledge of the physician nor the patience and personal interest of the parent. With all corrective measures, repeated trials are often necessary before the position, apparatus, or set of exercises best suited for the individual can be found, and changes from time to time are usually advisable.

The training of the muscles should be begun as soon as the patient's limbs can be moved freely without pain. In some cases this will be within three weeks after the attack, and in some others after a much longer period. It is possible also to accomplish a great deal for cases that have been neglected for years. Premature manipulations, on the other hand, and ill-directed exercises, have often greatly retarded or prevented the maximum recovery possible. Allowing patients to be on their feet too soon and too much has perhaps caused more crippling than any other factor in the care or lack of care of these patients. Weight bearing is very deleterious to weakened muscles.

In infantile paralysis the beneficial effects of muscular contraction on the circulation may be in part supplied by massage, heat, passive movements, etc., and these measures undoubtedly do to a certain extent prevent the wasting of the paralyzed muscles. Wherever there is, however, the ability to contract a muscle even slightly by an effort of the will, the muscle cells are more favorably affected by this contraction than by any quickening of the circulation by other means.

Seriously weakened muscles should be protected against cold at all times, against stretching, and against too much exercise. Any exercise may be too much at first.

The possibility of training nerves to work together with precision is shown in the formation of habits. Each time a partially paralyzed muscle contracts it not only improves the nourishment of its fibers, but also the co-ordination of the nerves which stimulate it.

In all exercise periods the whole attention of the patient should be required, or his ability to use his muscles will be much underestimated and the exercises will be much less effective. For this reason it is desirable that no person except the one who directs the exercises should be present. The presence of other children should be absolutely prohibited and no toys should be allowed. If the parents are ingenious the exercises themselves may be turned into an interesting game, without on that account making any sacrifice of precision in the performance of them.

The S. U. Public Health Service will be glad to furnish interested persons a copy of a set of exercises in muscle training which is recommended in connection with the after-care of infantile paralysis. It must be realized, however, that there is no royal road of progress in the treatment of the serious aftermath of this disease; intelligence, skill, care, perseverance, and courage are all required.

## NEWS ITEMS

THE EIGHTH (N. C.) DISTRICT MEDICAL SOCIETY held a meeting at North Wilkesboro, October 26th. An attractive program had been arranged by the President, Dr. Fred C. Hubbard, and the Secretary, Dr. C. S. Sink, both of North Wilkesboro. After invocation, welcome by the mayor and response by Dr. Roy C. Mitchell, Mt. Airy, and the report of the Councilor, Dr. R. B. Davis, Greensboro, the following papers were presented: Radiation Therapy of Benign Uterine Hemorrhage, Dr. J. P. Rousseau, Winston-Salem; Practical Handling of Cases of Abortion, Dr. Harry L. Brockmann, High Point; Importance of the Peak Curve in the Phthalein Test, Dr. A. J. Crowell, Charlotte; Some Medical Follies, Dr. Jos. L. Spruill, Jamestown; Some Applications of the Laryngoscope and Bronchoscope, Dr. G. C. Cooke, Winston-Salem; and The Action and Uses of Ephedrine, Dr. Jas. H. McNeill, North Wilkesboro. At the banquet an address was made by Dr. J. T. Burrus, High Point, and short after-dinner talks by Drs. A. J. Crowell and John Q. Myers, Charlotte, and Frederick R. Taylor, High Point.

THE MECKLENBURG COUNTY MEDICAL SOCIETY held its meeting October 30th. Program: Case Reports—Treatment of Internal Hemorrhoids, Dr. L. D. McPhail; Esophageal Stricture, Dr. Marvin Scruggs; Chronic Intestinal Amebiasis, Dr. L. G. Gage. Paper—The Value of Air in Urography, Dr. Raymond Thompson. Reports from the Atlanta Post-graduate Assembly meeting.

A prospectus of the DUKE SCHOOL OF NURSING, which will be established as a part of greater Duke University, was presented October 24th, at the convention of the North Carolina State Nurses' Association by Dr. Wilbert C. Davison, dean of the school of medicine. Officers for the new year were elected in the morning, Miss Mary P. Laxton, of Asheville, being re-elected president; other officers are: first vice-president, Elizabeth Connolly, Sanatorium; second vice-president, Mrs. Myrtle Roberson, Greensboro; secretary, Dorothy E. Wallace, Asheville; treasurer, Mrs. Jack Shope, Asheville; directors, Clyde Woodall, Raleigh, and

Juanita Ross, Durham; board of nurse examiners, Mrs. Z. V. Conyers, R.N., Greensboro.—Greensboro News..

DR. CHARLES BANKS MCNAIRY, 60, College of Physicians and Surgeons of Baltimore, 1893, died at his home at Lenoir, October 29th. Dr. McNairy established the first hospital in Caldwell county and was for many years at the head of the Caswell Training School at Kinston. Among surviving relatives are a brother, Dr. W. H. McNairy, of Crescent, and a daughter, Dr. Caroline McNairy, of Lenoir.

DR. LUTHER W. KELLY, Charlotte, University of Virginia Medical School, 1924, has become a member of the Nalle Clinic, Charlotte.

DR. WILLIAM T. GRIGGS, of Currituck county, North Carolina, is hailed as the benefactor of a large coast area of his home state by the *American Magazine* which, in its November issue, relates how he is almost constantly on the road, watching for white rags tied to gate posts, a signal that there is illness in the house beyond.

Dr. Griggs, one of the few surviving types of family doctors who in the old days were indispensable benefactors of their communities, is 60 years old and has practiced for more than thirty years in his community. He left a thriving city practice to go back to the community which he believed needed him. After leaving the University of Virginia and setting up a practice in Charlottesville, Va., he returned to Poplar Branch, near his old home, and since that time has been working day and night in the interest of his old neighbors.—Greensboro News.

DR. JOHN R. ASHE, Charlotte, and DR. D. LESENE SMITH, Spartanburg, have returned from attendance on clinics at New York and Boston, and a meeting of the Central States Pediatric Society, held at Pittsburgh.

DR. EDWARD G. HILL, 65; University College of Medicine, 1900, died at St. Elizabeth's Hospital, Richmond. Dr. Hill had made his home in South Richmond since 1888, having

engaged in the drug business prior to studying medicine. For a number of years he was Assistant Professor of Chemistry in his alma mater.

---

DR. R. J. NEFF, house surgeon at the Elizabeth Buxton Hospital, Newport News, Va., was burned to death in his own automobile early in the morning of October 21st, after parking it for the night in his garage. Coming from the hospital shortly before 3 o'clock, Dr. Neff was heard to drive the car into its garage at the home of Dr. R. A. Davis at 316 Sixty-fourth street, with whom he lived. Awakened by the flames from the car, Dr. Davis rushed to combat them, to find the young surgeon burned to death before he could be taken from his car, which was a mass of flames within.

Dr. Neff was an assistant to Dr. Joseph T. Buxton at the Buxton Hospital.

---

DR. BENJ. T. ATKINS, Medical College of the State of South Carolina, 1901, has recently located at Ellenboro.

---

DR. W. A. MCPHAUL, city-county (Charlotte-Mecklenburg) health officer, and Mrs. Virginia Gibbs McPheeters, supervisor of the city public health nursing department, attended the national meeting of the American Public Health Association at Chicago.

---

THE PITT COMMUNITY HOSPITAL, Greenville, N. C., announces staff appointments as follows: Dr. Malcom Thompson has been appointed surgeon-in-chief; Dr. George Stone, formerly with Highsmith Hospital, Fayetteville, N. C., has accepted an appointment as assistant surgeon.

---

DR. WILLIAM F. GREENE, 73, retired physician and surgeon of Mount Vernon, N. Y., died of a heart attack October 17th at the home of his sister, Mrs. George F. Norton, Winchester, Va., where he had been residing since the death of his wife and his own retirement four years ago. He was a graduate of the New York Medical College and College of Physicians and Surgeons, New York, and practiced over forty years. He was a direct descendant of General Nathaniel Greene, the Revolutionary hero who campaigned in the Carolinas, and commanded at Guilford

Court House.

---

DR. A. R. JOYCE, Elkin, prominent retired physician and Confederate veteran, died October 31st.

---

DR. RAWLEY MARTIN, 58, retired, died October 18th, at his home at Chatham, Va.

---

DR. EDWARD WHITEHEAD, of Salisbury, and Miss MARGARET WILKINSON, of Marion, Alabama, were married November 1st. Dr. Whitehead was a son of Mrs. John Whitehead and the late Dr. John Whitehead, for years a leading physician of Salisbury.

---

DR. JOHN L. LAWLESS, 80, died at the residence of his daughter, Mrs. Claude J. Edwards, Frnaklin, Va.

---

THE REV. DR. ROBERT HORTON, noted English Congregational leader, has become a father at the age of 73.

Ten years ago Dr. Horton married Miss Violet Basden, who had been a lifelong member of his congregation and whom he had baptized as a baby. His wife is now 36. Their child is a girl.

Dr. Horton has been pastor of the Lyndhurst Road church, Hampstead, since 1880. He is president of the National Free Church Council. In 1893 he visited America and was Lyman Beecher lecturer at Yale University. He was chairman of the London Congregational Union in 1898 and chairman of the Congregational Union of England and Wales in 1903.

---

DR. JOHN D. MACRAE, JR., of Asheville, and Miss ALICE ELEANOR ORR, of Scranton, Penn., were married at Buffalo, N. Y., October 17th. Dr. MacRae was graduated from the University of North Carolina and received his internship at Moses Taylor Hospital in Scranton, Penn. He is resident assistant in radiology at the large Buffalo City Hospital, which was 900 beds.

---

DR. WILLIAM T. WOODLEY, 86, a prominent physician of Charlotte for more than 30 years, died at his home in New Bern, November 1st.

Dr. Woodley retired from the practice of medicine in Charlotte about ten years ago and moved to New Bern, where he had made his home since that time.

## OFFICERS

Medical Society of the State of  
North Carolina  
1928-1929

*President*

Dr. Thurman D. Kitchin.....Wake Forest

*First Vice-President*

\*Dr. W. L. Dunn.....Asheville

*Second Vice-President*

Dr. D. T. Tayloe, jr.....Washington

*Third Vice-President*

Dr. W. D. James.....Hamlet

*Secretary-Treasurer*

Dr. L. B. McBrayer.....Southern Pines

## OFFICERS

Tri-State Medical Association of  
the Carolinas and Virginia  
1928-1929

*President*—Dr. J. K. Hall.....Richmond, Va.

*Vice-Presidents:*

Dr. Oren Moore.....Charlotte, N. C.

Dr. R. Finley Gayle, jr.....Richmond, Va.

Dr. DeWitt Kluttz.....Greenville, S. C.

*Secretary-Treasurer:*

Dr. J. M. Northington.....Charlotte, N. C.

## COUNCILORS

*First District*

Dr. H. D. Walker.....Elizabeth City

*Second District*

Dr. Grady G. Dixon.....Ayden

*Third District*

Dr. J. B. Cranmer.....Wilmington

*Fourth District*

Dr. W. H. Smith.....Goldsboro

*Fifth District*

Dr. E. A. Livingston.....Gibson

*Sixth District*

Dr. V. M. Hicks.....Raleigh

*Seventh District*

Dr. T. C. Bost.....Charlotte

*Eighth District*

Dr. R. B. Davis.....Greensboro

*Ninth District*

Dr. M. R. Adams.....Statesville

*Tenth District*

Dr. J. F. Abel.....Waynesville

*Chairman Committee on Arrangements*

Dr. C. A. Julian.....Greensboro

\*Deceased

## EXECUTIVE COUNCIL

## ONE YEAR TERM

Dr. Warren T. Vaughan.....Richmond, Va.

Dr. M. H. Wyman.....Columbia, S. C.

Dr. L. G. Beall.....Black Mountain, N. C.

## TWO YEAR TERM

Dr. E. S. Boice.....Rocky Mount, N. C.

Dr. F. B. Johnson.....Charleston, S. C.

Dr. R. L. Payne.....Norfolk, Va.

## THREE YEAR TERM

Dr. J. Bolling Jones.....Petersburg, Va.

Dr. D. A. Garrison.....Gastonia, N. C.

Dr. W. R. Wallace.....Chester, S. C.



# SOUTHERN MEDICINE and SURGERY

VOL. XC      CHARLOTTE, N. C., DECEMBER. 1928      NO. 12

## THE WOODS—FATHER AND SON

Thomas Fanning Wood, M.D.  
Edward Jenner Wood, M.D., S.B. (D.T.M. London)

By  
GEORGE M. COOPER, M.D.

For  
THE NORTH CAROLINA STATE BOARD OF HEALTH

I have been commissioned by Dr. Laughinghouse to prepare for the North Carolina State Board of Health an official contribution to the memorial issue of *Southern Medicine and Surgery* devoted to the memory of Dr. Thomas Fanning Wood and his son Dr. Edward Jenner Wood, two of the most distinguished physicians North Carolina has yet produced. I accept this commission with sincere pleasure as a labor of love to the memory of two great physicians, but at the same time with considerable trepidation, because of my lack of ability to do justice to such an undertaking.

Before going further I want to commend the editor of *Southern Medicine and Surgery* for his conception of such an edition. In the first place there is a woeful lack of definite, authentic historical records concerning the activities of nearly all our greatest physicians. Therefore the idea of assembling a compendium of information concerning the life work and scientific achievements of two of the most distinguished members of the medical profession is at once an important and commendable enterprise. Were it not for the fact that the late Dr. Walter C. Murphy, whose death occurred recently at Burgaw, North Carolina, collected, at considerable expense and a great deal of trouble, a complete series of the Transactions of the North Carolina Medical Society, which he presented to the State Library a few years ago, much of the record of our early medical history would be forever lost to posterity. Even so in the records of the earlier meetings, owing to the absence of competent stenographic help and the inadequate funds at their disposal, many of the

volumes of the Transactions of earlier years are notable for the absence from their pages of essential material concerning events which we know, reading between lines, were bound to have taken place.

### DOCTOR THOMAS FANNING WOOD

Doctor Thomas Fanning Wood, the originator and organizer of the North Carolina State Board of Health and chiefly of the State Board of Medical Examiners, was born in Wilmington, February 23, 1841, and died at his home there August 22, 1892. When the legislature of North Carolina, upon petition from the North Carolina Medical Society, carried up by Dr. Wood and some of his associates, enacted the first law creating a State Board of Health and making the North Carolina State Medical Society the Board and appropriating annually one hundred dollars for the carrying on the work, Dr. Wood was made head of the committee and responsibility for further organization was placed in his hands. This occurred in 1877 at the first meeting of the State Medical Society following the adjournment of the legislature. Therefore Dr. Wood served, as some one expressed it in a later volume of the Transactions, "as Board of Health" until his death, fifteen years later.

At the time of Dr. Wood's death the annual appropriation made by the legislature for carrying on of the work was two thousand dollars. Thus it is readily seen that Dr. Wood's great pioneer work was not done for a selfish reason or personal or professional aggrandizement, but for his deep love for human welfare, which was exemplified in

every act of his life. He laid the plans for future development and expansion of the State Board of Health. He builded it on a solid foundation, and no man has ever explained more clearly the duties of the State in the field of public health than Dr. Wood constantly expounded in his reports during the eighties, in the formative period of public health work in North Carolina.

Doctor Thomas Fanning Wood was the twenty-second member of the North Carolina Medical Society to sign the Constitution. He did this in 1867, and from that moment until the day of his death, in 1892, he was one of the most powerful influences for good working in the State Medical Society. The first man to sign the Constitution was Dr. J. B. Dunn of Raleigh, who signed in 1849. The second was Dr. E. B. Haywood of Raleigh, who signed in 1850.

Doctor Thomas Fanning Wood served for several years as secretary of the State Medical Society, to be exact 1868 to 1871, inclusive. He also served as a member and secretary of the second Medical Examining Board for five years, from 1867 to 1872.

On May 23, 1877, during the meeting of the North Carolina Medical Society, which was held that year at Salem, North Carolina, Dr. S. S. Satchwell of Rocky Point, Pender County, was made the first president of the State Board of Health, and Dr. Thomas Fanning Wood its first secretary, these officials being designated as "chairman" and "secretary," respectively, of the committee of the State Medical Society, having in charge the fortunes of the newly proposed State Board of Health. This meeting was immediately following the adjournment of the legislature that year, at which time the first law creating the Board was enacted. It may be interesting to note in passing that on that occasion Dr. Satchwell read an important paper entitled "Duties and Usefulness of the State Board of Health." This paper made such an impression that the society voted unanimously to remit all dues to Dr. Satchwell for the remainder of his life "as a slight testimonial of the regard of the society." On that day the first machinery of organizing the State Board of Health was definitely set in motion. In the first report of it, made to the Medical Society in a conjoint session, which was made by Dr. Wood as secretary at Golds-

boro, May 15, 1878, Dr. Wood said: "At the Salem meeting of the Medical Society of North Carolina the bill creating a State Board of Health was accepted by the society, not because it was regarded of much advantage to us, but as the beginning of a good work which would some day redound to the honor and advantage of our commonwealth. I am satisfied that nothing but a sincere desire to make a beginning in the great work of sanitary reform, and to put the ball in motion, could have induced this body to have accepted such a great work with such trifling means." The trifling means referred to was the sum of one hundred dollars per year to cover all the expenses of the State Board of Health. But what prophetic words Dr. Wood was using we know well enough today.

The legislature of 1879 made considerable changes and improvements in the law creating the State Board of Health, upon the urgent recommendations of Dr. Wood and the group of friends supporting his endeavors. So, following that session of the legislature, the first permanent organization of an honest-to-goodness State Board of Health was effected in the old "McAdoo House" in Greensboro on May 21, 1879, during the meeting of the State Medical Society. Dr. Wood was unanimously chosen secretary for a term of six years and all public health laws were placed unequivocally in his hands for enforcement.

There is nothing of especial interest to record in Dr. Wood's report at the meeting of 1880, except that the legislature had increased the appropriation from one hundred dollars per year to two hundred dollars per year. In Dr. Wood's report to the conjoint session which was held in Asheville, June 1, 1881, he seemed to reach the peak of enthusiasm, and at that meeting laid down a number of fundamental principles governing health work in this State, with prophetic vision. Such a profound impression did Dr. Wood make on the meeting at that time that he was unanimously elected president of the State Medical Society.

There can be no better place than just here to record one of the most interesting facts in connection with that meeting, which is significant of the impression made upon the medical men of North Carolina by these two men, father and son, than to note that it

was at the State Medical Society meeting at Asheville on June 17, 1909, just twenty-eight years later, that his son, Dr. Edward Jenner Wood, was elected first vice president of the society. The younger Wood would have undoubtedly been elected president that year but for the fact that the society felt an obligation to Dr. Burroughs, of Asheville. Dr. Burroughs was elected president that year and died a short time after, following which event Dr. Edward Jenner Wood assumed the duties of the president of the State Medical Society, which he discharged with great credit to himself and satisfaction to his friends. Dr. Edward Wood presided at the meeting of the State Medical Society at Wrightsville in 1910. Thus the North Carolina Medical Society conferred the honor, which has not been done before, with possibly one or two exceptions (the Paynes and Hills?), of making a father and son, with many intervening years, of course, president of the State Society.

In his presidential address at Concord in May, 1882, Dr. Wood said that "the great epidemic disaster (yellow fever) in the Mississippi Valley in 1878 was a powerful agency which placed public health upon the stage as an important factor." He was speaking of the South, of course. We might note that for the most part those people forgot and it took another disaster, the flood in 1927, to renew their determination. Indicating the necessity for constant vigilance in the carrying on of public health work, when the legislature met in 1881, Dr. Wood did his best to induce that body to enact a comprehensive vital statistics law. This particular endeavor of his should be emphasized in no uncertain terms as indicating the fact that, generally speaking, he was at least thirty years ahead of his time in his thinking and in his activities. It was more than thirty years later when the legislature was finally induced to enact this most necessary of public health laws.

At the conjoint meeting in Raleigh in May, 1884, Dr. Wood made a pessimistic report. He was discouraged and said so. It is possible that the weariness that comes from serving the public, when a large portion of that public is unappreciative, and when the remuneration is meager, had had its effect upon the mind and body of Dr. Wood. And who

could blame him? The appropriation at that time was still two hundred dollars per year. In Dr. Wood's own words "the interest and objects of the board seem to be in a retrograde condition in North Carolina, while the opposite condition is true of other states." He also said he thought "a crisis is imminent in the history of the board."

Doctor Wood was right in that statement, and he himself, by his unselfish activity and his persistent zeal, was largely instrumental in bringing about that crisis, because immediately following the meeting of the society that year the legislature, which convened in January following, amended the public health laws, making county boards more efficient, allowing a small printing fund, not to exceed two hundred and fifty dollars, and increased the annual appropriation of the board from two hundred dollars a year to two thousand dollars.

It is significant to note that the State Medical Society arose to the support of Dr. Wood, after his address in 1884, as one man, and in a stirring resolution offered by Dr. Satchwell, appointed a committee to beseech the legislature in behalf of the board. The resolution went so far as to request all of the members of the State Board of Health and all of the local county superintendents of health to come to Raleigh, when the legislature met, and assist in impressing that body with the necessity for the care of public health.

We pass over the years 1885 to 1890 and again mention the fact that in 1891, when the society again met in Asheville in May of that year, Dr. Wood was unanimously elected to succeed himself. At this meeting he said, "the people of North Carolina are beginning to understand that public health is public wealth." It is deeply gratifying to know that he lived to see that his labors had not been in vain.

In concluding the references to the great work of the elder Dr. Wood we can do no better than to leave it to the statements of his confreres at the time. Writing in the State Board of Health Bulletin in January, 1909, Dr. Richard H. Lewis, who succeeded Dr. Wood as secretary, said: "The State Board of Health owes its origin to the enlightened mind and benevolent heart of the late deeply lamented Dr. T. F. Wood, of Wilmington. The act creating it in 1877



carried no appropriation whatever, and the feeble infant was nourished at his own breast. Later, two hundred dollars, not enough to pay postage and printing, was given, and he supplemented it out of his own private and by no means plethoric purse, until finally, an annual appropriation of two thousand dollars, with printing and stationery, was obtained. There it has stayed for over twenty years." These words of Dr. Lewis, bear in mind, were written seventeen years after the death of Dr. Wood, and it may be said that another crisis in the affairs of the State Board of Health happened when Dr. Lewis exercised some of the same determined force used by Dr. Wood back at what he termed the first crisis in the affairs of the young board, in 1884.

Doctor Thomas F. Wood died on August 22, 1892, and at the following meeting of the State Society, held in Raleigh, May 11, 1893, at the memorial exercises, his life-long friend, Dr. George G. Thomas, of Wilmington, said:

"When I realized that the days of suffering of Dr. Wood had come to a sudden close, I knew more than I can tell this society how I loved the man and how I should miss him. It was my special privilege as many of you know, to have been his intimate associate in many ways, and I was in the main his physician in the later years of his life. Living so closely with him during these years, I came to recognize the depth and strength of his character. He was a man of high ideals and lived up to them. The aspirations of his life pervaded all of his labor. They were not the selfish ambitions of a time-server, a place-seeker. He worked for the best because it was the best as he knew it, and his strict adherence to principle was not always the popular thing to do. I had occasion more than once to stand with him against measures that concerned his friends and mine, but he never failed to come up to the measure of a well-rounded manhood. He was gentle and affectionate in his nature, and, while he boldly denounced wrong-doing, he never lacked the tenderest charity for the shortcomings of his fellow-men or failed to help the weak-hearted or wavering soul.

"He came into the work of his life with no help except his own intellect, and his achievements in the department he essayed to enter

bear testimony to his excellence.

"I had occasion to read a few days since, some pleasant and wise words of advice delivered by Dr. S. Weir Mitchell to a class of medical students. Among other things, he told them they would find diversion and benefit from the study of some branch of natural history. As I read after him, I thought of Dr. Wood. He began early the study of botany. It pleased him and he followed it eagerly, and he grew to a place of authority on all matters connected with the science, certainly so far as the flora of his own region was concerned, that was second to none in the South. He was measurably a pupil of the late Dr. Moses A. Curtis, and cherished for this gentle and earnest man a great admiration and affection.. At one time he purposed to reissue Dr. Curtis' 'Woody Plants of North Carolina,' with many useful additions of his own. I think his ill health put a stop to this work. This knowledge of botany, added to his professional training, brought him notice as a worthy person to take a position on the Committee for the Revision of the Pharmacopeia. Mr. Charles Rice, the able and learned secretary of this committee, in writing of his death, said that his place would be hard to fill. His journeys in the country, or an occasion jaunt in the woods near Wilmington, always served him for a day or hour of study. To him the simplest flower, the humble weed, the waving grass, the stately trees—all of them were loved acquaintances. They spoke to him of the wonders of the study he so earnestly followed; and, besides elevating his mind, improving his memory, and enlarging his knowledge, they told him, in no uncertain terms, of the greatness and wisdom of the God whom he humbly worshipped. His career as a journalist was the result of a marked literary taste, and it was signally successful. In the face of numberless obstacles and against great odds, he erected and sustained the Medical Journal of your State, and made it worthy to be the official organ of this society. His love of letters led him into all the fruitful realms of this delectable study, and he attained to decided prominence among the brothers of the guild. I had the opportunity of reading a brief history of his life, which he wrote for his children. It began its recital with his birth in Wilmington, recounting



the period of his boyhood days, his schooling, his companions, brief accounts of the older people of that time, noting also the locations where they lived, and connecting with them bits of local history. It told, in its simple way, of the struggles of his youth and early manhood, his first attempts to study medicine, his necessities driving him into a drug store as a clerk to sustain himself (and, by the way, this knowledge, gained under a careful employer, was of great benefit to him afterward), his final arrangement to study continuously under one of the physicians of Wilmington as was the custom then. It told of the outbreak of the war and of the stirring events preceding it, its interruption of his studies, his entering the army and his life as a private soldier. He was enabled, so his story tells us, to resume his work in medicine, and became a student in the Medical College in Richmond. From this place he was appointed to the position of Assistant Surgeon in the Confederate Army. Thence it told of the great struggle, the deeds of bravery of which he had personal knowledge, and of the men who did them. The memory of these days and of his companions of that trying time, he always cherished with tender affection, and his voice and manner bespoke the earnest pride with which he recalled them. The book is a charming bit of history and a wonderful exposition of his ability of judging men and estimating their worth. Herein lay much of his power. He was possessed of a sterling character, and chose well his friends and those whom he expected to help in the causes he espoused. His benevolence was large, often trenching largely upon his means. There are many men, women and children in his native town who yet silently thank him for aid tenderly furnished them in hours of great need.

"It is needless, in this presence, to say aught of his labors for this society, or its offsprings, the Board of Medical Examiners, and State Board of Health, you all know that he was instant in season and out of season in his earnest work for the best interests of them all."

At the time of Dr. Thomas F. Wood's death, and for some years after, Dr. Henry T. Bahnson, of Salem, was president of the State Board of Health. Following Dr. Thomas' oration to the memory of Dr. Wood, as

just quoted, we note that Dr. Bahnson made the following remarks:

"In all that elevates and ennobles the human race, Dr. Thomas F. Wood was a shining example. He was one of those rare men who stand out in the history of a century to show that the grace of God does, even now, conform fallen man to this Divine likeness. The mainspring of his character was charity—that God given inspiration, which raises man to the level of the angels, and stamps the perfect type of enlightened civilization—a Christian gentleman."

In concluding these references to the great ability and character of Dr. Wood we can do no better than to quote Dr. J. W. McNeill, of Fayetteville, who was president of the society that year. Dr. McNeill said in his presidential address:

"I cannot close my remarks without a word of tribute to those two members of our society whom death has taken from us during the past year. There are two to whom this society will always owe a special debt of gratitude and respect, Doctors Thos. F. Wood, of Wilmington, and S. S. Satchwell, of Pender. These men did all that man can do. Their loyalty and devotion, their watchful care and self sacrifice, their wise counsels and liberal support will be remembered, and prove an inspiration to every member of this society who values an honorable name."

A motion was unanimously passed "that the society have made a life-size bust portrait of Dr. Wood, to be presented to the State Library, and that \$100 be appropriated to defray the expenses of the same, the portrait to be delivered to the society at its next meeting." That commission was promptly executed by the committee appointed for the purpose, and the portrait of Dr. Wood hangs today in its proper place among others of North Carolina's great citizens, in the portrait gallery of the Hall of History.

#### DOCTOR EDWARD JENNER WOOD

Doctor Edward Jenner Wood was born July 12, 1878, and died September 16, 1928, at his home in Wilmington. It may be truthfully said of Dr. Edward Wood that he literally gave his life for his friends. No man ever graced the profession of medicine in North Carolina with any greater credit to himself and to the greatest ideals of the pro-

fession than Edward Jenner Wood. He never spared himself. He was always ready and anxious to serve his sick and suffering fellow-humans. He evidently inherited his father's fine scientific mind, and when he undertook the study of any subject he did it with a thoroughness that is seldom seen in the votary of any profession. In this respect he reminded his friends of men like Pasteur and Osler. His greatest contribution to scientific medicine in North Carolina was his profound knowledge and his intensive study of such diseases as pellagra and sprue. He spared no pains or efforts to gather information anywhere in the four corners of the earth that he might obtain it. Very few men, after gaining as fine start as he did in the practice of medicine following his graduation and location in Wilmington, would have pulled up stakes, so to speak, and spent months and months in further study in Europe, as he did, in order to gain more information for his life work.

Doctor Wood also inherited his father's literary taste. He was the author of a book on pellagra which was a pioneer work of its kind in the United States. He brought this book out at a time when it took courage to assemble the facts and to publish it under one's name. He contributed articles on pellagra in Osler's *System of Medicine* and on sprue in Nelson's *Loose Leaf Medicine*. He was a frequent contributor to many of the most important journals in the country. All of them readily published his contributions, because they were the work of an authoritative student.

It is easy for many of us who do not consider ourselves as old in the profession to remember, back in the early days of the appearance of pellagra in North Carolina, that the recognition of this disease, which had hitherto been confined to its endemic home in Italy and other European countries, created considerable disturbance in medical circles in North Carolina. Dr. Wood's earlier work in the study of pellagra is a fine example of his search for scientific knowledge and the readiness with which he undertook the hardest of medical problems. At the time pellagra was becoming an important medical question in North Carolina, something like twenty-five years ago, it may be noted that the government of Italy was maintaining a large number

of government sanatoriums for the treatment of the thousands upon thousands of people sick all the time of that disease in Italy. In those days Dr. Goldberger and his associates had not made any experimental efforts in the determination of the cause of the disease. For scores of years the active cause of pellagra had been a question for argument throughout the foremost medical and scientific circles of the world. Many authorities held to the old maize theory, which was discussed with more or less heat at all medical society meetings of North Carolina in the earlier years of this century, which it is easy enough now to recall, that there was some infective agent in the corn from which meal was made, which made the meal dangerous to eat, was prevalent in many quarters. These people, although they did not know it at the time, were very close upon the deficiency in diet theory commonly accepted at present as the basic or underlying cause of the disease. Anyhow, the North Carolina State Board of Health took early cognizance of pellagra as a public health problem. The board appointed a commission, composed of Drs. Edward Jenner Wood and R. Harlee Bellamy, of Wilmington, to study this important question. In the March, 1908, issue of the North Carolina State Board of Health Bulletin Dr. Richard H. Lewis, then secretary of the State Board of Health, published a paper by Dr. Wood on "Pellagra in North Carolina." In his editorial introduction Dr. Lewis had the following to say concerning the early work of Dr. Wood:

"It is with much pleasure that we print Dr. Wood's excellent and valuable paper. No contributor to the columns of the Bulletin could be more welcome than the talented son of Dr. Thomas F. Wood, by whose efforts the State Board of Health was created, and who, by his self-sacrificing devotion of time, labor, and his own private means, kept it alive until the State finally made an appropriation for its support."

In the Bulletin of October, 1909, the following editorial is quoted in full, entitled "Pellagra in North Carolina:"

"The general interest in this disease, as indicated by numerous and rather conflicting newspaper references, has suggested to the editor of the Bulletin the advisability of complying with that section of our public health

law, which, referring to the duties of the Board of Health, reads: "They shall gather such information upon all these matters (i. e., epidemic diseases) for distribution among the people, with the especial purpose of informing them about preventable diseases."

"To obtain such information in regard to pellagra, the North Carolina Board of Health appointed a commission, composed of Drs. Edward J. Wood and R. Harlee Bellamy, both of Wilmington, to study this new malady. These men have given much of their time and energy to the investigation of this disease. We personally know that they have reviewed most, if not all, the English, Italian, French and Germany literature bearing on the disease. They have studied, both chemically and experimentally, nearly two hundred cases. It is our honest conviction that the men composing this commission are two of the best American authorities on pellagra.

"A number of other commissions and the United States Marine Hospital Service are investigating the pellagra problem, and there exists between these separate bodies of investigators a healthy spirit of scientific rivalry in their efforts to be first in reaching the goal of truth regarding its prevention. This being so, let those doctors whose hearts are fired with patriotism uphold the hands of this commission, their worthy representatives, by cordially co-operating with them in reporting the data of all their cases to the Pellagra Commission.

"As to the frequency of the disease in the State, it may be said that the Pellagra Commission know of probably two hundred cases, and as the disease is new and the greater part of the profession without experience in its recognition, we feel safe in concurring in the opinion of Drs. Wood and Bellamy that there are at least one thousand cases in North Carolina. Newspapers err in estimating the frequency by the number of cases reported in the Bulletin. This is so because there is no law requiring doctors to report cases of this disease, and therefore only a small number of the cases actually existing are reported.

"For the enlightenment of the profession and the public, we take pleasure in publishing an article on the occurrence of the disease in this State. This article, coming as it does, from the above commission, is at once official and authoritative."

We republish the foregoing because it indicates, as nothing else could, the scientific background and the intensive labor of Dr. Edward Jenner Wood in this important field. Doctor Wood held this interest in the study of pellagra to the day of his death.

In January, 1928, Dr. Wood honored the writer of these lines with the invitation to join him in the collaboration of writing a comprehensive book on the subject of pellagra. It is perhaps permissible to state here that this invitation was hesitatingly accepted. Dr. Wood stated at the time that he had been in at the beginning of this disease in North Carolina and it was his ambition and desire, God willing, to make one more lasting contribution to the subject for the benefit of our younger confreres in the medical profession, as well as to do something toward stopping the ravages of this disease in so many homes of the people of North Carolina. He was in the midst of his part of this enterprise when he met death on September 16. It is much more than unfortunate that Dr. Wood's life was not spared to finish this work, because I feel that it would have been of exceeding great value to the medical profession and to the people of the State had this work been completed. He had studied the disease from every conceivable angle for the past twenty years, and in the report that he made in collaboration with Dr. Bellamy on the occurrence of pellagra in North Carolina, he mentioned the fact that they had performed a number of autopsies, indicating the intense efforts that he had made from the beginning to learn all that it was possible for one man to know about the subject of pellagra.

Doctor Edward J. Wood was appointed a member of the State Board of Health in 1913 by Governor Locke Craig. He served the full term of six years with distinct credit to himself. He declined to accept a reappointment at the expiration of his term of office in 1919 because of his contemplated long sojourn in London, where he made a special study of tropical diseases. He received the degree of Doctor of Tropical Medicine from the Royal College of Physicians and Surgeons of London in 1920.

Doctor Wood was modest and unassuming, and expressed to the writer many times his lamentation that there was so much to learn



in the world and so little time in which to gather that knowledge. No more gentle, tender, able physician ever practiced his profession in North Carolina, and no truer scientific student ever passed across the stage of what we call Life than Edward Jenner Wood,

truly a great son of a great father. The lives of both of them ought to prove a lasting inspiration to struggling young physicians throughout the length and breadth of the State.

## AUTOBIOGRAPHICAL SKETCH OF THOMAS FANNING WOOD

(Written in 1892)

Wood, Thomas Fanning, was born in Wilmington, North Carolina, February 23, 1841. His parents were of Quaker extraction of Massachusetts, who with many other families dispersed to various parts of the world after the failure of the whale fisheries of Nantucket.

After receiving a high-school education he entered the office of a physician as a student to learn the elements of medicine, and the breaking out of the war of 1861 found him in charge of a drug store, substituting for the proprietor who had been shot in a street fight. He volunteered as a private in the Eighteenth Regiment, N. C. Infantry, and served at Fort Fisher, Coosawhatchie, S. C., the Battle of Hanover Court House and the Seven Days Battles around Richmond in 1862. He was then transferred to the North Carolina Hospital in Richmond (Moore Hospital) and detailed by the Secretary of War to attend lectures at the Medical College of Virginia in session at Richmond. He was called before the Army Medical Board before he graduated, and was made Assistant Surgeon, rank of Captain, in February, 1863. He was assigned to the Third Regiment, N. C. Infantry, Jackson's Corps, and in this capacity served at the Battle of Chancellorsville, at the (Millroy) Battle of Winchester, and at the Battle of Gettysburg. He was continuously with the same regiment during Grant's campaign in the Wilderness, and with the Army of General Early in the arduous campaign from Lynchburg to Washington City. He was with his regiment which was afterwards transferred to the army around Petersburg in 1864-65, and was with General Lee's Army at the surrender, April 9, 1865.

He began the practice of medicine in Wil-

mington in August, 1865, and was placed in charge of the Smallpox Hospital, and of the general management of the smallpox epidemic which prevailed for nearly a year. He obtained the license of the Board of Examiners in 1866, at its first session since 1861, he being the only candidate. The honorary degree of Doctor of Medicine was conferred on him by the University of Maryland in 1868. He was secretary of the Medical Society of North Carolina from 1868 to 1871 and of the Board of Medical Examiners from 1867 to 1872. In 1878 he was elected a member of the Board of Medical Examiners for a service of six years, elected president of the Medical Society of North Carolina in 1882. He was an active promoter of the State Board of Health, and has been its secretary and executive officer from 1878 to the present date (1892).

In 1878 he founded the *North Carolina Medical Journal*, and has continued in the self-imposed office of editor ever since, furnishing to the North Carolina medical profession a medium of professional intercourse, and keeping alive the interests of the Medical Society and its auxiliaries, the Board of Medical Examiners and the State Board of Health, by the zeal and vigor of that publication.

He was elected a member of the Committee of Revision of the Pharmacopoeia of the United States for the decennium 1880-1890 and again from 1890-1900.

He is a member of the American Medical Association and of the American Public Health Association, first vice-president of the latter in 1891.

His contributions to literature have been few except the yearly round of editorial du-



ties in a field where there was only time for hard work. Some of his contributions are "Non-Identity of Vaccinia and Variola," and other studies chiefly upon the subject of vaccination and smallpox.

He was president of the Elisha Mitchell Scientific Society of the University of North Carolina and contributed to the science of botany amateur work as follows: to the Historical and Scientific Society of Wilmington, "The Insectivorous Plants Growing Around Wilmington," "The Edible and Poisonous Fungi," also a "Biographical Sketch of Moses A. Curtis, D.D.," the renowned botanist of North Carolina; and "North Carolina as a Field for the Naturalist."

His labors in the field of sanitary science

have been the drudgery of inculcating the elements of the science, especially that of building up in North Carolina a system of vital statistics. In this interest he has edited a monthly periodical, the "Bulletin of the North Carolina Board of Health," published by the State Board of Health since 1887. The University of North Carolina conferred upon him in 1888 the honorary degree of LL.D.

(Note.—This was written the year of his death, which occurred 22 August, 1892. It is assumed that he intended to supply missing dates but was prevented by his decease. This sketch was prepared for the BIOGRAPHY OF EMINENT AMERICAN PHYSICIANS AND SURGEONS, Carlton & Hollenbeck, Publishers, Indianapolis, Ind. It is likely that this manuscript, found among Dr. Wood's papers many years after his death, was mislaid and has never been used.—Ed.)

## THE WOODS—PERE ET FILS

THOMAS E. ANDERSON, M.D., Statesville

Mainly at the instance of that prince of men, Dr. M. Whitehead, of Salisbury, I joined the North Carolina State Medical Society in 1879 at Greensboro, having been graduated the previous year at Jefferson Medical College. That was my first contact with Dr. Joseph Graham, Dr. Henry T. Bahnson, Dr. Chas. J. O'Hagan, Dr. W. H. H. Cobb, Dr. McDuffie, Haig, Dr. R. L. Payne, sr., Dr. Chas. Duffy being president that year, and many other splendid names I might mention.

Of this number I have purposely withheld the name of Dr. Thomas F. Wood, whom with freest accord his brethren acclaimed first. His handsome figure and face stand out with cameo distinctiveness in my mind: he was always on the front line of every project that had in it the interest or advancement of this, to him, most cherished aggregation. The examinations then were oral and not mandatory. I recall Dr. Bahnson's question desiring light on the *physiological action of alcohol on the human economy*. A little further along in the proceedings there was afforded him all the visible effects he cared to note. Indeed I hope with the utmost charity for those ardent students so interested in *effects*, that I may say that those annual meetings gave more clarity to that beclouded subject than almost to any other. To this class, however, Dr.

Thos. F. Wood did not belong. Although a great investigator, alchemy and reagents were his handmaidens. He held almost all the places of trust and honor of the society, was president of the society at the Concord meeting (1882), giving to this office an effulgence never excelled. His knowledge of the flora of the state was vast, exceeding, perhaps, that of any one of his day. With charming voice and presence he adorned many fine papers and amplified nearly all of the discussions up for consideration. His chief work, however, was the founding and editorship of the *North Carolina Medical Journal*, which he carried on until his death in 1892. His death was due to valvular trouble and it will ever remain history how he prolonged his life by the systematic regimen of lying on his back for three years, editing his journal and doing much prescribing for patients. Of his age at death I do not know. I only know that, as it was with Moses, "his eye was not dimmed nor his natural force abated," except as obtains in that condition when the "bowl is broken at the fountain." From observation I can bear testimony to the fact that most unfortunate are those who suffer this lesion, the going is truly distressing. My dear mother went this *via dolorosa*. I should like to stop here but a sad and most uninviting chapter remains. The great dailies of the

country on the 17th of this month carried the most unwelcome news of the sudden death of his most brilliant son, Dr. Edward Jenner Wood, in the hour in which he was stricken, at his home in Wilmington, at the early age of fifty, going perhaps by the same means as his father though most likely from the organ so opulent in its strenuous yield, his many sided brain. His loss to his state and to medicine can scarcely be computed. The most active brain perhaps ever bequeathed to his state in the lines in which it led him. He had a penetrating mind of most unusual compass. His studies—in truth his discovery—of pellagra, in this state, exceeds and antedates all others on this occult subject. Unravelling the ramifications and mysteries of affections of

this nature made strong appeal to him. His studies of sprue almost enthralled him, and were wide. In the interest of his investigation he made different trips to Europe. His book on pellagra is authority on that subject. His abilities were recognized and much sought after by his loved State Medical Society which bestowed about all its honors on him. He was president at the Wrightsville meeting (1910), member of the Board of Health from 1913 to 1919, when he declined further election, as it interfered with his researches. No tribute I could pay him would be too effusive. Farewell *mon cher ami!* May you find eternal bliss in the fertile fields by the river of life which will forever feed the cravings of your eager mind!

## IN MEMORIAM

Edward Jenner Wood, M.D., S.B. (D.T.M. London)

By

GEORGE M. COOPER, M.D.

Raleigh

I come with bitter tears to offer my feeble contribution to the memory of Ned Wood, who was the genuine friend of every struggling young physician in North Carolina for the last twenty-five years. Others will write of his life, his work, his accomplishments, and his position in the medical profession, but I write with the full significance of what it means to realize that my best friend in the medical profession has gone. With this preface I shall confine my contribution largely to his scientific achievements.

Doctor Wood died on a sunny Sabbath day, September 16, 1928, at his home in Wilmington, of cardio-renal disease. He had made an accurate diagnosis of his own condition and predicted his death as to time and manner with uncanny accurateness. Many of us had hoped all during the past year that he was mistaken in his diagnosis and that his most useful life might be spared for many years to come. His life and his work have meant more to scientific medicine in the State of North Carolina than that of any other physician of the present generation. His loss is irreparable.

It is almost trite to say that along with his scientific greatness Dr. Wood was great as a man. He had a passion for scientific truth that brooked no interference. He never hesitated, when he found on one or two rare occasions in his experience that his position on a scientific subject was probably wrong, to immediately reverse himself, openly acknowledge that he was probably wrong, and cheerfully set his face forward in the pursuit of truth as he saw it. This trait in his scientific mind had a parallel in his general character toward medical and public health forces in the state. An illustration may be mentioned which will illuminate his character in the estimate of every fair-minded man. Many years ago in the city of Wilmington a public official had caused, by criticism, whether deliberate or unconscious need not be speculated upon here, some hurt to members of his family from a public standpoint. The criticism was unjustified and was directed at two of Wilmington's greatest citizens. More than ten years later, when a vacancy in the position of State Health Officer was in prospect, an office which his distinguished father

had filled with ability as the first in North Carolina, Dr. Wood, not knowing of the scheduled plans of those responsible for filling the place, was big enough man to recommend the identical man who had criticised his beloved uncles in years gone by. His reason for recommending the man to be State Health Officer was because, in his calm, scientific opinion the man was capable of filling the office, and that was sufficient reason for Dr. Wood to forget all personal hurts.

Doctor Wood was internationally known for his studies and research work in pellagra and sprue. Dr. Wood was only 50 years of age at the time of his death, having been born July 12, 1878, and therefore was in the very prime of life. He was the son of Dr. Thomas Fanning Wood, the first secretary of the North Carolina State Board of Health, and who held that office from its beginning until his death in 1892. The elder Dr. Wood, undoubtedly built the foundation upon which most of the later accomplishments of the State Board of Health have been erected. He built the foundation with wise foresight and pioneered with unerring vision. Dr. Edward Wood himself was appointed a member of the North Carolina Board of Health in 1912 and served the full six-year term, declining to stand for reappointment at the end of that term because of the fact that he contemplated a year's study of tropical diseases in London. He received the appointment of Assistant in Tropical Medicine at Guy's Hospital, London, and studied there in 1919 and 1920, receiving the degree of Doctor of Tropical Medicine at the Royal College of Physicians and Surgeons of London in 1920.

Doctor Wood was graduated from the University of North Carolina with the degree of S.B. in 1899. He followed that with a course in medicine at the University of Pennsylvania, being graduated there with the degree of M.D. in 1902. After locating in Wilmington and starting a practice there he took post-graduate study in Munich in 1906.

From the very first day that Dr. Wood opened his office in Wilmington he was a notable member of the North Carolina medical profession. He was president of the North Carolina Medical Society in 1910, reaching that office probably earlier in practice than any other man who has held it

within the past generation. It may be said that the honor came entirely unsought by him, as did all the other distinctions that were awarded him in such manner. He allowed nothing to divert his interest or his mind from the pursuit of scientific truth. In manners and bearing, professionally and personally, he was one of the gentlest men that it has ever been my privilege to know.

For the past several years Dr. Wood had confined his practice to that of consultant by appointment. His active practice extended all over the State of North Carolina and into parts of South Carolina. He was frequently called to Raleigh in consultation, and gave freely of his time and talents to assist any medical confrere.

Doctor Wood was the first physician in North Carolina to appreciate the danger from pellagra in this state. Along about 1907, when the first few sporadic cases were diagnosed in the state, Dr. Wood had already become a profound student of the subject and had translated from the Italian records important studies of the disease in its endemic home in Italy. He was courageous enough to publish "A Treatise on Pellagra," which was brought out by D. Appleton & Co. in 1912. This book was intended for the general practitioner. When the book went to press there was not a single treatise on the subject in the English language, except some very short articles in such publications as the Encyclopedia Britannica. In that book he assembled practically all of the knowledge existing in the world at the time on the subject. His chapters on the history and geographical distribution of the disease remain a classic to this day. At the time of his death Dr. Wood was busily engaged in writing another book on the subject embracing all of the historical accuracy embodied in his first book, and setting forth an accurate discussion of the present status of the disease in North Carolina and the South. The profession of North Carolina and the people generally are the losers in that his life was not spared to finish this valuable contribution to the medical literature of our state. In this connection it is well enough to state that the profession of North Carolina have full realization today of the menace pellagra offers to the health and well being of the people of the state, a realization which Dr. Wood



had not lost for a moment during the last twenty years of his life.

In addition to his book on pellagra Dr. Wood was the author of many scientific articles. He had contributed articles on pellagra to Osler's System of Medicine, and on sprue to Nelson's Loose Leaf Medicine. He had made many other scientific contributions to the important medical journals of the country.

In 1924, at the meeting of the Southern Medical Association in New Orleans, Dr. Wood presented a paper in which he took an advanced stand on the relation of tropical sprue and pernicious anemia. This paper was so far in advance of his fellows that his position was not accepted with the enthusiasm which he had hoped for. His views were listened to with profound interest and respect, but the foremost men present at that time were not ready to accept his findings. He himself laid down his premises with the understanding that much research work remained to be done to establish proof of his beliefs. The fact that there was some skepticism expressed at this meeting was a disappointment to his sensitive nature. However, time has justified many of his conceptions expressed at that time.

The scientific world had awakened to the fact that here was a man capable of profound study and far-reaching research work, a man of convictions and the courage to express them. This recognition of his work had come to him with definite clearness in a letter under date of July 21, 1928, from the American College of Physicians inviting him to take part in a great symposium to be presented at the coming meeting of that great organization in Boston next April. Dr. Wood was at the time of his death already at work on his paper to be presented in the symposium at that meeting. His subject was to have been "Sprue." He was to be associated in the symposium with five other distinguished scientists. It was a recognition of his ability, which was not only greatly appreciated by himself, but those of his friends who knew about the program. The great LaFayette B. Mendel, of the Sheffield Scientific School of Yale, was proposed to take the discussion of "The Biochemistry of Deficiencies." Dr. S. B. Wolback, the distinguished pathologist of Harvard, was assigned the subject of "Path-

ological Changes Produced by Deficiencies." Dr. G. R. Minot, discoverer of the liver treatment of pernicious anemia, is on the program to open the symposium. Dr. Randolph West, another distinguished American physician, has the subject of "Pernicious Anemia;" and finally, Dr. Joseph Goldberger, of the United States Public Health Service, takes the subject of "Pellagra." Dr. Wood anticipated very keenly the opportunity of presenting the results of his important studies on sprue for the past several years at this great symposium of the American College of Physicians. To me the most poignant feature of his untimely death is the fact that his passing occurred before this great meeting next April.

With all his scientific attainments, and his greatness as a physician and scientist, and his record of achievements, I cannot help getting back to what was to me his greatest attribute, and that was his gentle bearing and his generous assistance to every physician, young and old, in his state who needed his enthusiasm and unselfish encouragement.

Doctor Wood married Miss Louise Bellamy, April 18, 1906, and to this union were born three children, two sons—Edward J. Wood, junior, a student at the University of North Carolina; and John D. Wood, of Wilmington—and one daughter, Miss Louise B. Wood, of Wilmington. His mother, Mrs. Mary Sprunt Wood, and two sisters, Misses Jane D. and Margaret H. Wood, also of Wilmington, survive. He leaves also two brothers, J. Hunter Wood, of New York, and Thomas F. Wood, of Rotterdam. Three uncles on his mother's side also survive, the beloved and gentle W. H. Sprunt, of Wilmington, Dr. Alexander Sprunt, of Charleston, South Carolina, and John D. Sprunt, of Wilmington.

The newly organized Medical Foundation of North Carolina, of which Dr. Wood was a member, could do no better than to establish a scholarship to his memory at the University of North Carolina. We hope that this may be done before the beginning of another college year. In that way, if such a scholarship should be established there, his memory could forever be kept green in an environment that he loved.

"What was his creed?"

I do not know his creed, only know



That here below, he walked the common road  
And lifted many a load, lightened the task,  
Brightened the day for others toiling on a  
weary way:

This, his only meed; I do not know his creed.

What was his creed? I never heard him  
speak

Of visions rapturous, of Alpine peak

Of doctrine, dogma, new or old;

But this I know, he was forever bold

To stand alone, to face the challenge of each  
day,

And live the truth so far as he could see—  
The truth that evermore makes free.

His Creed? I care not what his creed;

Enough that never yielded he to greed,

But served a brother in his daily need;

Piucked many a thorn and planted many a  
flower;

Glorified the service of each hour;

Had faith in God, himself, and fellow-men;—

Perchance he never thought in terms of creed,

I only know he lived a life, in deed!

---

## IN MEMORIAM—DR. EDWARD J. WOOD

*By*

J. G. MURPHY, M.D.

Wilmington

The sudden going of Doctor Edward Jenner Wood on September 16, 1928, was a shock that left the whole community stunned. His friends and fellow-physicians still stagger from the blow his death has dealt.

A close friendship and association since university freshman days has given the privilege of knowing him well. The more one contemplates his character and his labors, the more powerless one feels to pay deserved tribute to him.

The value of Doctor Wood's life to his native city is beyond telling. His extended advantages, his magnificent acquirement of knowledge, his intense concentration and fidelity to each minute detail—all this was expended in daily blessing to those in need.

He was the most conscientious physician I ever knew. He would refuse to take on new work, but every patient accepted was examined and treated with the greatest thoroughness. His case records are marvels of neatness. His handwriting was beautiful. I venture that in his files is a completely written history of the last patient he saw. When he spoke of persons or worthwhile things his clearness of speech was a joy to the listener.

Whether speaking in public or in conversation, or in writing, his language was so definite and vivid that his meaning could not be mistaken.

The period covered by the years of his service is the period in the science of the practice of medicine. Many physicians have followed this science and reached renown; but, with Wood, the science of medicine was a matter of course. He practiced the art of medicine.

His pre-eminence in the profession is well known in this and other countries, and I would pay reverent and affectionate tribute to his pre-eminence as a personality, a character, a man. His dignity was superb, but he wore dignity as a garment, without stiffness or coldness. Perhaps that virtue in him which outshone others was his devotion to his friends, and his warmth of admiration for all that was finest and best. If the full story of his life were told there would be a recital of numberless acts of thoughtfulness, gracious and graceful kindnesses often known only to the immediate recipients and perhaps quickly forgotten by the noble-hearted doer of these deeds.

There could not stand forth a character like this unless at its centre was a vital christianity. He saw the hand of God in everything, and loved to think and speak of Christ as a physician. His intense nature which poured itself out in devoted concern and ministry to his family; and drove his energies mercilessly in professional research and ministry to the suffering—burned out the candle of life all too soon.

Having said these things, there remains a keen sense of having hardly touched the fringed edge of the subject of all he was to us, and of our irreparable loss.

We admired him and loved him. We depended upon him in times of our greatest need. He never failed us. He gave, along with the help of our ills, his sympathy and comradeship. We shall always need him, and always miss him.

---

## EDWARD WOOD—MAN AND DOCTOR

CHARLES T. NESBITT, M.D.

Wilmington

I am delighted to learn that an issue of *Southern Medicine and Surgery* is being devoted to the commemoration of the work of the Woods, father and son. The state, the South, and this community are vastly more deeply indebted to these men than is generally comprehended.

I came to the South after the death of the elder Wood, but in all my early contacts here I encountered expressions of regret at his loss and a reverential attitude toward him. Everything that I heard of his many activities exhibited his interest in the details of pure science. It is clear that he thought in terms and scope which belonged to the next generation. There could be no doubt with reference to his unusual scholastic attainments, and above all there showed the clear light of his impersonal devotion to the wellbeing of the race.

These qualities were transmitted most generously to his son.

I met E. J. Wood for the first time in 1906. My first impression was that he had an unusual understanding of the importance of meticulous exactness in scientific inquiry, that he was absorbed in medical scholasticism, and that behind all was the firm determination to make his life work a worth while

contribution to human welfare and advancement. That he succeeded we will realize more fully as the years go by. His studies brought to us the realization that we had to deal here with much pathology that we formerly believed was restricted to the tropics. He first brought together the studies, history and literature of pellagra for the American student. His studies of the nutritional abnormalities of our section served greatly to clear the way in diagnosis and treatment of many obscure conditions. His scholastic industry made of him an encyclopedic repository of medical knowledge, and there is not a reputable physician in eastern North Carolina who cannot look back upon many occasions when Wood has joyously lent the helping hand in some problem.

There is no doubt that his intense application shortened his days. His death so far as we can see was most untimely. His whole time was devoted to the one object of his life. We took him as a fixture and now that he is gone we are all a little dazed. We cannot help wondering if he would have played more and lived longer if we had shown a better spirit of comradeship. We hope that in his present state he can see in our hearts our deep bereavement.

## EDWARD JENNER WOOD, M.D., S.B., D.T.M.

## A Tribute

By

ERNEST S. BULLUCK, M.D.  
Wilmington

Edward Jenner Wood was a great physician. When he was among us we revered him. Now in retrospect we realize the power of the man and the true value of his work.

He was a student; he evolved into a scholar, and then became a master. He made four pilgrimages to the shrines of European medicine. He learned from Sanbon, Castellani, Mueller, McKenzie and Osler. One of these visits was extended over two years. At that time he graduated from the School of Tropical Medicine. He visited or studied in nearly all of the recognized teaching hospitals of England and on the Continent. The influence of these institutions and the inspiration of their great teachers he brought home and shared with his colleagues.

The attending staff of the James Walker Memorial Hospital was organized by him. The laboratory was presented to the hospital as the result of his tactful suggestion. He stressed to the donors of the Marion Sprunt Annex the value of a hospital unit devoted to the care of mothers and babies. His ideas were in evidence throughout the hospital. Wide observation made him an able counsellor to its board of trustees. In the wards he delighted to teach the younger men. The response was that he had an audience for every utterance, an admiring helper at every turn.

He was invited to join the medical faculties of two colleges, one call being to the chair of Tropical Medicine at Tulane. But his love for this locality and its people was so great that he deemed that he could not be tempted to make his home elsewhere.

We have him to thank for organizing the first seaside hospital in this section of the country, for the care of babies. He initiated the first local interest in a pure milk supply. He realized that many tropical diseases were endemic in our sub-tropical climate. Much of his time was devoted to bringing these diseases to our attention. He was among the very first to record the appearance of pel-

lagra in the United States. Intensive study and experimentation led to the publication of a comprehensive monograph on this disease, the second book on this subject to be published in the English language. During this period he broadcast the presence of pellagra and urged its recognition. He contributed articles on pellagra to Forcheimer's Therapeutics, Blumer's Therapeutics, Blumer's Diagnosis, Oxford Loose Leaf System and Osler's Modern Medicine. Sir William Osler declared him to be the outstanding authority on pellagra in the United States.

In England he made extensive observations on the diagnosis of cordal lesions, using the tuning fork to estimate the duration of sensory preception. He evolved a scale of standards for the duration of preception in cordal and peripheral lesions that is a definite contribution to the knowledge of medicine. In tabes dorsalis he established the tuning fork as the earliest means of differential diagnosis.

His last years were devoted to the study of yeasts. He directed attention to certain forms of pseudo-tuberculosis in which death seemed to be the result of infection by yeast cells instead of tubercle bacilli.

Drawing a parallel between sprue and pernicious anemia he attempted to show that they were different manifestations of the same disease. He succeeded in culturing the yeast cell causing sprue—*monilia psilosis*—from the digestive tract of all patients suffering from pernicious anemia. In recognition of this work on sprue he was elected to membership in the American Society of Physicians.

The standard of his work improved medical practice throughout his sphere of influence. Indolent physicians were forced by comparison to improve the quality of their work.

He was intensely interested in preventive medicine and rendered valuable service while on the State and New Hanover County Boards of Health. He was the consultant of many county health officers and societies for

the prevention of disease.

Authorship to him was natural. Through an excellent academic education he acquired form and graceful expression. He adhered to the essentials and disregarded the superfluous. When presenting contrary views he could set forth the supporting evidence, give each item its relative value, sum up the whole and let the reader conclude on which side lay the greatest weight of evidence, in a way that made his mind comparable only to an analytical balance. His style was individual to an unusual degree. There was a literary finish to all that he said or wrote. A life of study and observation and his contact with great teachers supplied him with a wealth of facts and ideas worthy the polished words he selected to convey them. His voice was low with wonderful carrying power. He generally spoke without notes. He was deliberate, orderly, logical, knew the value of pause and

drew his conclusions in a convincing manner. Yet withal so modest that he nearly refused to present his views on pellagra before the Philadelphia Academy of Medicine. He knew that some of the teachers from his medical school would be present and he feared they might think him presumptuous.

It was as a consultant that his colleagues loved him best. His great powers then converged on one point as a lens centers the rays of the sun with burning intensity. At such times he was always serious, never hasty, always thorough. He considered all the diseases the patient could have, excluded the ones that were not found. The disease that could not be eliminated was the one the patient had. It was easy for us to do when he was there. His sick-room attitude was charming. In the details of his professional ethics he was most punctilious. He was a great doctor. All honor be to him.

## EDWARD JENNER WOOD—ALPHA TAU, '99

By

RALPH B. McKNIGHT, Alpha Tau, '14  
Charlotte

In 1905 there appeared in the South Atlantic States a disease apparently unheard of before in this section—certainly not brought to the attention of the medical profession. It was characterized by a general debility, digestive disturbances and certain peculiar skin eruptions which seemed to be more or less seasonal in occurrence. After several occurrences the afflicted victims began to develop distressing nervous symptoms, paralysis of the legs, sensory disturbances, mental deterioration, not infrequently in the form of mania or melancholia with suicidal tendencies; a very large number terminating in death.

A Sigma Chi living in Wilmington, N. C., was interested in the scientific side of medicine, particularly in the infections of the warmer climates. Excellent laboratory and clinical facilities enabled this physician to take up the study of this peculiar disease.

From a series of cases, he prepared a paper which was read before the American Medical Association in 1907—A Mixed Infection of

Tertian and Quartan Malaria Occurring in a Patient with Symmetrical Gangrene of the Skin. In the general discussion which ensued, no mention was made of pellagra. After this paper was published, the author received many letters from the Gulf States where the disease had occurred and had been diagnosed pellagra. These comments and further studies convinced this physician of the correctness of the diagnosis, and for the next decade Dr. Edward Jenner Wood spent most of his time in a careful study of this serious disease.

Dr. Edward Jenner Wood was born in Wilmington, N. C., July 12, 1878. He was graduated from the University of North Carolina with the B.S. degree in 1899. Here he joined the Alpha Tau chapter of Sigma Chi. In 1902 the University of Pennsylvania conferred the degree of M.D. While at Pennsylvania he became a member of the Alpha Kappa Kappa medical fraternity. Nineteen hundred and six found him in post-



graduate study in the University of Munich, working under such eminent physicians and scientists as Mueller and Alzheimer. While here his work consisted largely of neuropathologic technique, in investigating the pathology of disease affecting the spinal cord and brain.

In 1919 he went to London, England, and became attached to Guy's Hospital as assistant in clinical medicine in the service of Dr. Arthur F. Hurst. He spent a year here and in Scotland with Sir James Mackenzie. In London he did an original piece of work on the quantitative estimation of the vibration sensation in neurology, and found it to be the earliest sign in tabes dorsalis.

In Edinburgh at the Royal Infirmary and at the Clinical Institute in St. Andrews, as well as in various London clinics, Dr. Wood read papers and gave numerous lectures on pellagra. He was elected to the Royal Society of Tropical Medicine, London; and secured a diploma on examination in Tropical Medicine and Hygiene of the Royal College of Physicians and Surgeons (D. T. M., Eng.)

Brother Wood relates a humorous incident occurring while in Scotland. He does not play golf. He states that the only notable event in his life seems to have been while working in St. Andrews with Sir James Mackenzie, and being invited to participate in a game of golf with this physician, he had to refuse, not knowing the game. This eminent Scotch doctor was amazed and utterly disgusted to find a prominent physician who did not play golf!

Dr. Wood's publications have been numerous. They include a book on pellagra; chapters in various medical publications on pellagra and tropical medicine as can be found in Tyson and Fussell's *Practice of Medicine*;

Forscheimer's *Therapeutics*; *Oxford Medicine* and Nelson's *Loose Leaf Medicine*. Numerous short papers on pellagra, sprue and other allied subjects have appeared.

Other honors well deserved have come to Brother Wood. President of the North Carolina Medical Society in 1908; member of the North Carolina Board of Health, 1912; full active membership in the Association of American Physicians in 1917. The latter is a greatly coveted honor and one of the highest Dr. Wood has received. He is on the consulting staff of the State Hospital, Raleigh, and of the James Walker Memorial Hospital, Wilmington. His private work is confined strictly to consultation in internal medicine, and private research. On three occasions Dr. Wood has been offered full time professorships in different medical colleges; these he was compelled to refuse, though reluctantly, on account of extremely low salaries paid.

Dr. Wood was married in 1906 to Miss Louise Bellamy, of Wilmington. They have two children, a boy of twelve and a little girl of eight.

It makes a younger Sigma Chi feel prouder of his fraternity and chapter to hear the name of an older Sigma Chi mentioned as I have frequently heard of Dr. Wood while sitting in the great medical clinics of Philadelphia. It helps to instill the desire to do something worth while that will reflect honor and glory on his profession and his alma mater, and add new lustre to the White Cross. This, Brother Wood has done. In becoming one of the foremost physicians of America, he has contributed a large share in making our great fraternity all the greater.

*Note.—Appeared first in the Magazine of Sigma Chi, 1917.*



## BE GLAD—AND THINK \*

JAMES K. HALL, M.D., Richmond

I am not so solemn as I might seem to be and the admonition of a friend that I try at least to refrain from speaking too gravely and too seriously to you young ladies upon this occasion so auspicious to you was wholly unnecessary. Much of our daily work represents a vigorous effort to postpone for as long a period as possible the transfer to the mortician and the ultimate crypt of those intrusted to our care. On more than one occasion in my life, and not so far away as to dim the memory of the events, I have occupied such a position as you now occupy. I, too, have looked up into the face of some speaker in the hope of catching some word of encouragement and inspiration. And the ponderous platitudes that I have listened to have given me sympathetic understanding of the remark of the New England statesman who found himself pestered by the multitudinous vocalizations of one of our warrior-presidents. Speaker Reed, was asked directly what he thought of Theodore Roosevelt and promptly he replied: "Oh, I admire tremendously his enthusiasm at having discovered the Ten Commandments." I hope that while we commune here together for a brief moment that I may be able to avoid subsequent references to the Good Samaritan, Florence Nightingale, and the Biblical Martha. Most habits are difficult to disrupt, but I have made a faithful effort to boycott the use of certain words and phrases. One of my verbal detestations is service, and another is public welfare. I wish that one of the great departments of our state government might have some other designation less objectionable to me.

Mankind's chief concern, after all, is his fellowman. We are without other vital and sustained interests. The mechanizing of the age has as its purpose the hope that we may the more readily and the more easily make contacts with our fellows. In witness of this dogmatism I invite your consideration of the various electrical devices making possible the immediate transfer of speech and of language. And the improved means of transportation

have no other end in view. The prompt transportation of thoughts and of goods from man to man—how much of the activity of the day is given over to that single problem! Heaven appeals as a place of permanent abode largely because of the hope it holds out of congenial associations; its antithesis is objectionable, not so much because of the torrid temperature, as because of the impossible companionship implied. We are gregarious, sociable creatures, working with and largely for each other.

Sometimes I think the finest quality exhibited by any civilization is shown by the respect manifested by its regard for the memory of its dead and by its consideration for its sick, and for those otherwise handicapped or rendered helpless. In the domain of the lower kingdoms of life the dead are probably promptly forgotten; the sick and the helpless are deserted. It could not be otherwise. Self-preservation demands that the individual look out for self, otherwise the species would become extinct. But man's intelligence enabled him finally to understand that in gregariousness lay the safety of the race, and out of this realization of mutual interdependence came his strength. We all live by our instinct—by that mysterious inherited trait that enables one to perform an act that one has not previously done, that one has had no instruction in doing, that leads to an end that one cannot foresee. An instinctive act is an act that one cannot avoid doing. It is done automatically, and the doing of it is the manifestation neither of virtue nor of depravity. Instinct is.

But upon an understanding of this poorly understood inherent tendency is based all education. A mistake is made in speaking of education as an acquisition. Education cannot be imposed by another, it can not be acquired. It is the development of what is inherent in one. Education is self-development. The instinct of motherhood lies in every woman. It lies indeed dominant and mighty in all the females of all the lower forms of animal life. I can scarcely call to mind any mother, four-footed or winged, that is not willing and ready at any moment to lay down her own life in defense of the lives of her offspring. The instinct of the male is

\*A talk to the graduates of the Training School for Nurses of St. Luke's Hospital, Richmond, class 1928.

to dominate and to lord it over creation; the instinct of the female is to bring forth, to protect, to nurture, and to make extinction of the species improbable.

But this instinctive tendency is blind and unreasoning. It does without knowing how and without knowing why. It furnishes motive power but it does not supply skill. It has little if any intelligence. We bring ourselves into association with those who have found out in order that we too may find out. We try to become better acquainted with our trends in order that we may learn which of them may be harmful in their tendencies and which may be beneficial. An in order that we may select some vocation we try to discover that particular trend—that specific instinct—which we should like to become dominant in our own lives. That desire—that high purpose—that resolve—brought each of you a few years ago into Saint Luke's—into the fine fellowship of others who had long ago given themselves over to a life devoted to the highest ideal that mankind has ever been able to formulate—a life of labour for the welfare of others. But even such a life as that can not be wholly devoid of thought of self. Every individual is affected, is made, indeed, by what he has even in contemplation for others. But such a life as that does not imply forgetfulness of self. We are peculiarly responsive to environment. We are moulded, willy-nilly, to fit into that portion of the universe that immediately surrounds us. Neighborhood improvement brings self-improvement. We can not rise higher than our aspirations, we deserve to be no better ourselves than we would desire to have others to be. What we would do for others, that and no more, are we doing for ourselves. So-called sacrificial effort—and I dislike the term—is not wholly, perhaps not at all, sacrificial. What I do for another that same thing I do also for myself. I can not do my neighbor a meanness without debasing myself; I can not do for another some good deed without ennobling myself. There are laws in the world of the spirit as inflexible as in the world of the material. Be assured that from the world we shall get back what we give to it, either of good or of evil, and with interest compounded.

What could medicine of today do in the way of warding off disease or in ministering

to the sick without the help of your nimble fingers and without the inspiration that comes to us from your cooperating minds? How desolate life would be if every nurse in the country should fail to report for duty tomorrow morning! You are the watchers on the towers. You occupy positions in the front ranks in the warfare against disease, and death, and pestilence. In the absence of the doctor you are his eyes, his ears, his hands, his judgment. The healing balm must reach the patient through your hands. You are the medium through which the art of medicine brings to the individual all its wonderful blessings. No braver figure stands out in the history of our race than that afforded by the quiet, patient, tireless nurse, as she stands guard against the cohorts of the grim reaper.

Much of the mental energy of mankind is spent in correcting the errors of preceding generations. You will be called upon even in the homes of reasonably intelligent people to lend a credulous ear to the value of some form of therapy based upon nothing but superstition. In charity remember that man has always been credulous and that in some fashion he must give expression to his faith in some thing or in some philosophy. We men are slowly, but with some degree of success, bringing about a rational change in our attitude towards woman. The greatest analyst of the mind that our own race and language has yet known once exclaimed: "Frailty, thy name is woman!" What a foolish exclamation! What an irrational idea! Ask the surgeon if woman is frail. Ask the soldier on the field of battle if she be fragile. Look into the lonely cabin on the mountain side in the dead watches of the night as she hovers over the bedside of her diphtheritic child—does she lack in courage or in stamina? I have no doubt that Ann Hathaway had been rebuking William Shakespeare for some bacchanalian night spent with old John Falstaff, otherwise the dramatist could not have spoken so slanderously of the mothers of men. The uniform of the nurse is symbolic of all that is best in our race.

Some of you, I hope, come from the wide spaces of the country. And I pray that some of you may go back into country life to spend your days amongst the people who constitute the firm foundation of our national life.



What a boundless opportunity will be afforded there for the display of all your skill and gracious helpfulness! Your knowledge of dietetics will be of usefulness in enabling you to give instruction in the proper preparation of foods—in transforming the products of the farm into the delicacies of the tray and the table. No other portion of the physical mechanism is quite so easily influenced by the emotions as the alimentary tube and its tributaries. A happy frame of mind should be a welcome guest in every dining room. And I have long believed that the dining room should be the brightest and the cheerfulest room in the home. Cheering pictures should look down from the walls, the fragrance of flowers should be in the room, and trouble and worry and anxiety should be kept beyond its threshold. Let gladness attend us while we eat. For the person engaged in attending to the necessities of alimentation there is only one perfect motto: Let me eat, drink and be merry. And in whatever community you may establish your habitation you will occupy a pedestal. About all sorts of matters you will be consulted, and in them all you can be useful. Your training has given you an understanding of the value of sanitation—of general cleanliness—and your tact in bringing about a general clean-up of the premises in the neighborhood will make the world around you more wholesome. Most diseases are spread through filth, carelessness, and ignorance. You will have endless opportunities for bringing a general betterment in the ways of living. And whether you continue to live singly, or whether later you live conjoint lives—and I hope the last one of you will marry—still let your lights shine. Make your home the model home of the community. Good food, a comfortable house, an attractive yard, set with shrubs and besprinkled with flowers—all these things are potent factors in the production of good citizenship.

I would not lecture you. Reflection upon the long, long years during which I sat at the feet of one Gamaliel after another begs me to spare you on this joyous occasion. But, let me, I pray, say this word. When you are called to the bedside remember that the dreadfulest enemy you go there to battle against is not germs or fever, or malnutrition or physical pain. As soon as you enter the sick one's home you will be pounced upon by

the greatest robber and the most ruthless buccaner the world has ever known. He is older than mankind and his name is Fear. He does more harm today than all the germs that have yet been catalogued. Fear kills the sick and cripples the well. The surgeon can not cut it out with his knives. Fear is evasive and elusive. It thrives on ignorance. It cowers and trembles before the calm eye; it is rebuked by the quiet voice. The gentle, calm, intelligent, well-trained, imperturbable nurse is Fear's worst enemy. In the room where the good nurse is Fear does not abide. Let your presence in the sick room and in the perturbed household say: Peace, be still.

In the trials and tribulations that will come to you—for they come to all of us—remember the comforting enquiry of the great Apostle: "Shall the things formed say unto Him who formed it, why hast thou made me thus?" You will feel many times like asking why was one patient made so and another patient made thus. Fret not. Many moulds are being made use of in modeling the clay of which we poor mortals are made. Expect not too much of a mere mortal. Perhaps the protesting prayer of the Persian poet may help you to feel more charitable toward us poor, weak, complaining men as you minister to our tabernacles of clay:

Oh Thou, who didst with pitfall and with gin  
Beset the Road I was to wander in,  
Thou wilt not with Predestin'd Evil round  
Enmesh, and then impute my Fall to Sin!

Do the day's work as it comes. Pour into it all of yourself. Let your consciences be able to speak approving words of your work and of your character.

Then, in such hour of need  
Of your fainting, dispirited race,  
Ye, like angels, appear,  
Radiant with ardor divine!  
Beacons of hope, ye appear!  
Langour is not in your heart,  
Weakness is not in your word,  
Weariness not on your brow.  
We alight in our van! at your voice,  
Panic, despair, flee away.  
Ye move through the ranks, recall  
The stragglers, refresh the outworn,  
Praise, re-inspire the brave!  
Order, courage, return:  
Eyes rekindling, and prayers,  
Follow your steps as ye go.  
Ye fill up the gaps in our files,  
Strengthen the wavering line,  
Stablish, continue our march,  
On, to the bound of the waste,  
On, to the City of God.



## OUR DUTY TO THE PATIENT\*

CLAY W. EVATT, M.D., Greenville, S. C.

It is needless for me to say to this body of men that the main purpose dominating the act of every sincere physician is the welfare of his patient, and since the patient is the prime consideration everything in all the realm of medicine is directly or indirectly related to this subject. Indeed, the duty to the patient began long before we had a patient, as soon as we cast our lot with the medical profession; that is to say, as soon as we decided to study medicine. The Father of Medicine, Hippocrates, summed it up as an oath which is, as we all know, to hold the life and health of our patients before that of our own. All along the line from the greenest probation nurse, through the hospital and the various societies of specialists, on up through the American Medical Association itself, the reason for existing, is to better serve the patient. A hospital or doctor who puts fees before the welfare of the patient is a menace to the community. Sincerity of purpose is a prime necessity. To render full duty we must be capable; this requires a clear mind and a sound body, thorough training, and a genial, tactful personality, and character of reliable warp and woof.

Every doctor should take post-graduate courses, or be compelled to attend 90 per cent of all organized medical meetings in his section, for these meetings are simply for the dissemination and exchange of practical experiences; in fact they are short post-graduate seminars. No doctor gives himself a square deal unless he prepares and reads at least one paper a year, for the work of getting up a paper gives the doctor a better knowledge of the subject than is obtained in any other way. Have a hobby, but don't put it ahead of your profession. Be known as a doctor who takes vacations of the right sort. We need to spend one month each year on vacations, preferably at medical centers, as these places afford opportunity for both study and recreation.

Some great man has said that the doctor who reads an hour each day will sometime

be the leading physician of his community. Read as much as possible, not confining the reading to medical literature.

One important duty is to get a complete history of every patient. To do this requires time, and time to a busy doctor is very precious. The two chief urges of the average general man are, first, to see all his patients and, second, to make a living. Osler said, "Observe, record, reflect."

There is frequently a misinterpretation of the term "scientific medicine." Science is the knowledge of nature's laws and nature's ways; to know and understand the changes in health and disease and to make correct observations at the bedside are as truly scientific as laboratory or research work.

The physician may know perfectly the workings of all organs of the body and yet fail to know the patient as an individual. We must learn to properly evaluate the patient's relations and reactions to his environment. Not infrequently neurasthenics have gone the rounds and have been so much misled by leading questions that only by painstaking, tactful questioning can one get a worthwhile history. To take a good history is an art to be nurtured and cultivated; an art in which only a chosen few have made themselves proficient.

Next in order and of no less importance is the routine physical examination of every patient, and to do less than a complete routine physical examination is to fail in our duty. Laennec, the father of physical diagnosis, and inventor of the stethoscope, published 109 years ago, his *Traite de l'Auscultation Mediate*, which was a chart of a hitherto unsailed sea, the compass of which, the stethoscope, still guides us to safe harbors.

The procedure is the same old routine—inspection, palpation, percussion and auscultation. As Dr. Garnett Nelson tells his students, "For God's sake and the patient's sake, learn to see with the eyes, to hear with the ears, feel with the hands, and last and most important, to think with the head." . . .

Countless volumes have been well written on the importance of thorough physical ex-

\*Presented to Greenville County (S. C.) Medical Society, October 1st, 1928.

amination, and there is no excuse for any doctor not examining his patient from the tips of the hair to the soles of the feet.

*Head.*—Scalp, skin, eyes, ears, nose and throat should be inspected.

*Chest.*—It is a shame that every doctor does not know how to do and practice doing a reliable chest examination. Failure in this duty has caused many patients to pass from an easily arrestable chest condition to an incurable state and an early grave.

*Abdomen.*—The abdomen should be examined for abnormalities in size, shape and position of the underlying viscera.

*Pelvis.*—Gynecologists tell us that not one in ten doctors does as many pelvic examinations as he should. This as much as any other examination, is made more perfect by practice, until indeed well trained fingers seem to have eyes on their tips. It is largely also on these examinations that the female death rate from cancer depends for its reduction.

*Rectum.*—It has been tersely and truly said that the good doctor examines the rectum.

*Laboratory.*—The importance of pathology cannot be over-emphasized. Pathology is the why and how of medicine and we should keep ourselves abreast the major advances in this subject and physiology, for without a knowledge of the fundamental laws governing health and disease, our diagnosis and therapeutics, like the house builded upon the sands, are washed here and there with every tide of changing vagary. Every doctor can with lit-

tle expense of time or money, equip himself to do the routine laboratory tests, or associate himself with a dependable technician. The states does wassermanns and kahns free, and when the more rare procedures are necessary, specialists at reasonable rates are always available.

Many times specialists are called when not needed. At other times it is our privilege and duty to consult them. A specialist is a man with ample experience, and a wisdom born in the travail of general practice as a background, plus thorough preparation in his chosen field. Such a man is an adornment to the profession and a counsellor well worth consulting. However, our duty is not to act as road signs or traffic cops, directing the patient to this or that specialist, but to treat him ourselves unless need beyond our ability arises; in such case, without hesitation or embarrassment, we should have consultation.

Our last, but not least, duty to the patient is to charge enough so that the patient will appreciate the fact that his doctor is among the best. Every self-respecting man wants to pay for value received.

The doctor, more than any one else, must be an idealist, not a dreaming visionary, but a practitioner of resourceful idealism. With Philip James Bailey—

We live in deeds — not years; in thoughts — not  
breath,  
In feelings, not in figures on a dial.  
We should count time by heart throbs;  
He most lives who thinks most, feels the noblest,  
acts the best.

#### EVEN FISHING-WORMS IMPROVED BY SCOURING

W. R. Walton, of the U. S. Department of Agriculture, who has made a serious study of the earthworm in connection with the damage the worms sometimes do to lawns and golf greens, has also shown that the scouring of worms has been well known to some anglers for hundreds of years, and was well described by Izaak Walton, patron saint of fishermen, in 1653. Scoured worms, this entomologist says, are much more desirable than those freshly dug. They will live longer on the hook and will take more fish.

Here is the method of scouring as described by Mr. Walton: Take a quantity of sphagnum moss, such as is used by nurserymen in packing plants for shipment. Put this into a stoneware crock or a tight wooden box. This moss, which grows in shady, swampy woods, should be well moistened, but the excess water should be wrung out before the moss is placed in the container. Worms should be placed in

the moss for at least two days, and preferably three or four, and kept in a cool place. At the end of this period, they should be almost transparent, tough, and lively. In case it becomes necessary to keep them in the moss for some weeks, a little sweet milk should be poured over them at intervals of about a week, but the moss should be washed and wrung out in clean water every week or ten days.—*Stanly News-Herald.*

#### THE RETORT COURTEOUS

The daughter of a certain strict-principled old deacon had attended a dance the previous night, much against her father's wishes. When she appeared for breakfast the next morning, he greeted her with the words:

"Good morning, daughter of Satan."

To which the maiden respectfully replied.

"Good morning, father."—*Cornell Widow.*

## THE PRACTICAL HANDLING OF CASES OF ABORTION\*

H. L. BROCKMANN, M.D., F.A.C.S., High Point

In this discussion no attempt will be made to cover completely the subject of abortion. The intent is merely to bring out a few points concerning this subject which would seem of importance both to general practitioners and to hospital men.

For sake of clarity the term abortion here applies to all interruptions of pregnancy, spontaneous or induced, prior to the time at which the embryo becomes a viable fetus, which occurs at about the twenty-sixth to the twenty-eighth week after conception. Among medical men the term miscarriage should be discarded. It is merely a nice word used among the laity, the idea being that abortion implies criminal procedure.

Threatened abortion and abortion that has been completed before one is called into consultation are two conditions demanding little comment here. We all agree that when threatened abortion is suspected, the treatment indicated is absolute quiet in bed, some form of narcotic to discourage the uterus from contracting, and avoidance of purgatives or laxatives that will cause straining. And when we find that an abortion has taken place and completed itself we caution our patients to remain at rest for several days to allow the uterus to return to a healthy state. Few women realize the marked changes taking place in the uterus even in an early pregnancy and the importance of proper care following an abortion.

It is with incomplete abortion, whatever the cause, and with therapeutic abortion, whatever the indication, that we are primarily concerned. Our main concern is to handle patients with inevitable and incomplete abortion, and those whose conditions require therapeutic abortion, in such a manner as to avoid the stigma of interrupting pregnancy unethically or with criminal intent.

To avoid all suspicion of this it should be the invariable procedure to call in consultation in every case of induced abortion. Whenever possible, on account of conveni-

ence, the welfare of the patient, and the lack of secrecy which it conveys, such work should be done in hospitals. Even so, some institutions acquire an unenviable reputation. We can never be too careful in our efforts to be open and aboveboard, and with this work in particular. It is well that careful case records, including the names or signatures of those responsible, be kept for ready reference.

If a patient when first seen presents an inevitable or incomplete abortion the issue is clear. If the physician will follow the plan above suggested he will absolve himself from blame for possible criminal procedure accomplished before he was called in. There are times, however, when the path of duty is rather obscure. I refer particularly to abortions contemplated or done for therapeutic reasons. Not many pregnant women are eligible to this class, but unmistakably we may list as indications for abortion: hyperemesis gravidarum, advancing tuberculosis, heart disease with decompensation, renal insufficiency, contracted pelvis, grave anemia, and any other disease which seriously endangers the mother. It should really not be difficult for clinicians to arrive at the proper solution in such cases. But this solution should be approached guardedly, and without making premature definite statements and promises.

It happens now and then that the family physician finds it difficult at the home to control either the condition existing or the patient and family. Not infrequently he is almost forced to take some more radical step than the measures usually employed. A mistake all too often occurring is a promise to take the patient to a hospital and have the uterus emptied. While this is often the very best thing that can be done, still it is hardly fair to bind the surgical consultant in this way.

Again and again the practitioner watching the course of a disease from its incipency in the home has an advantage over the hospital consultant to whom a patient is taken. But it must also be admitted that in the home one frequently lacks the facilities for more com-

\*Read before the Eighth District (N. C.) Medical Society, meeting at North Wilkesboro, October 26, 1928.



plete examination which are at the disposal of the hospital practitioner, his opportunity to see the patient several times a day, as well as the constant observation of nurses and associates. More effective treatment, particularly of cases of toxemia of pregnancy, can usually be carried out in the hospital than in the home. It would seem more advisable in most cases to first recommend hospital treatment before promising the radical procedure of evacuating the uterus. One should remember also that early careful medical treatment often saves the necessity of interrupting pregnancy. If this cannot be given at home, it is better to recommend hospitalization in time to take advantage of it. Furthermore, we meet with cases showing a recovery merely on changing environment and surroundings, by removing them from the home to the hospital.

Omitting the medical treatment of other conditions indicating therapeutic abortion, it is relevant to dwell for a moment upon the kind of attempt we make medically at the High Point Hospital to relieve patients suffering from hyperemesis gravidarum without interrupting pregnancy.

These patients are not handled by any routine procedure but each individually according to the indications. Some receive corpus luteum in some form. We use lutein as often as twice a day for from six to twelve doses in the vein or by hypodermic injection. Liquid or soft food or other carefully selected articles of diet are given. Gastric lavage is used if indicated by persistent vomiting. Not infrequently, in the more severe cases with dehydration and acidosis, we give an intravenous infusion of five hundred c.c. of normal sodium chloride solution and twenty to fifty grams of glucose. This is used about once in twenty-four hours for from one to several days, and when this does not seem sufficient we amplify it with five hundred c.c. of the same salt solution by hypodermoclysis half way between the intravenous treatments. At times we follow the glucose injections with insulin hypodermically.

In a number of cases the heart rate is rapid and weak, and here we have not hesitated to use digitalis and caffeine. Calomel and lactate of magnesia have been our choice remedies for securing bowel elimination.

It is right neither to abort a woman for

early toxemia of pregnancy before a fair trial has been made to overcome the condition, nor to allow one to become so weak that her health or even life is seriously endangered. Most of us here have known women to come in with repeated pregnancies and vomiting and ask to be relieved of the pregnancy without wanting to put forth an effort; we have, also, seen women go along for sheer determination or for lack of willingness of the medical attendant to interfere, and become so seriously ill that they could not withstand emptying the uterus or could not recover even when the uterus was emptied. They went on and died.

There are many dangers attendant on the emptying of the uterus of the products of conception which are entitled to consideration here. Principally they are infection, incomplete evacuation and perforation of the wall of the uterus. Thorough preparation and aseptic technique is as important here, if not more important, than in other major surgical procedures. The choice of anesthetic should be that indicated by the individual case in question. Always the lightest anesthesia practicable is preferable. We have found spinal anesthesia excellent in a great many cases. The relaxation of the perineum obtained is exceedingly helpful, and we have been delighted with the manner in which the uterus contracts after it has been emptied under spinal anesthesia. Very low blood-pressure we accept as our chief contraindication to spinal anesthesia. In such cases either nitrous oxide, ethylene gas and oxygen, or ether has been chosen. In a few cases it is unnecessary to use any anesthetic.

As a means of dilating the cervix, we prefer the old-fashioned set of Pratt dilators. One must take time in dilatation in order to avoid tearing. There are no sharp points to the graduated set of Pratt dilators; but no matter what instrument is used, great care is essential. Before inserting any instrument, the direction of the cervical canal and the depth and position of the womb is to be verified by the passage of a sound.

For curettage the following technique is generally employed, being varied to suit the case in question. Separation of the contents is first attempted with sponge forceps, superimposing one upon the other and using slight torsion and rotation in an endeavor to secure



and deliver the contents almost in one mass. This is followed by a careful and systematic going over of the entire wall of the cavity of the uterus with a blunt curet. The readiness with which the contents separate and come away varies tremendously. As a rule we finally wipe rather firmly over the mucosa with a gauze tape moist with tincture of iodine, this serving the triple purpose of causing the last remains of the contents to come away, insuring sterilization, and stimulating the uterus to better contraction. We are not content until contraction of the uterus takes place. When occasionally it is impossible to attain this, we allow one or more of the gauze tapes to remain in the cavity of the uterus for several hours.

It is the general rule to pack the vagina, and sometimes the cervical canal, with pledgets of cotton in cases of inevitable or early incomplete abortion. Also, to induce abortion, this pack is practiced in conjunction with the insertion of a rubber catheter into the uterus when the pregnancy has advanced beyond the third month, and at other times when the cervix is found so close and hard that it is difficult to dilate. This packing often causes the uterus to discharge its contents completely into the upper vaginal canal,

or causes the cervix to soften, thus facilitating dilatation and curettage.

Few realize that the prognosis for health following an abortion is worse than after normal birth. Ergot should be administered after an abortion, and the patient should be kept under observation until her uterus is normal. Endometritis, subinvolution, pelvic peritonitis and backache are a few of the sequelae of abortion which confront us almost daily. I believe the profound anemia frequent among women is largely due to pathology associated with pregnancy and abortion. Slight prolonged and sudden hemorrhages, and the toxic action of retained products of conception have a taxing effect upon the hemoglobin and red blood cells especially that has received far too little consideration.

It is to be deplored that many patients go through with repeated therapeutic abortions after having perfectly evident indication at the time of the first interference to avoid future pregnancies. We know by experience that surgical prevention of conception such as ligation or removal of the oviducts is by far the most dependable method. This is to be urged upon physicians and patients alike to avoid useless suffering and waste of health.

---

## EXTRAVASATION FROM THE LOWER URINARY TRACT

JAMES J. RAVENEL, M.D., Charleston

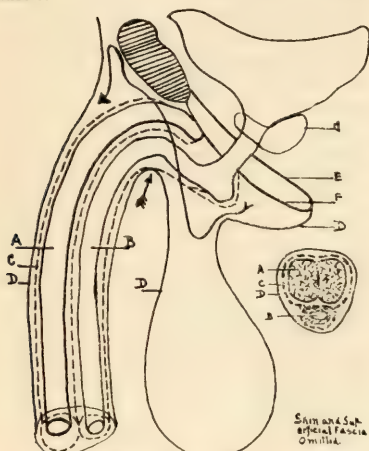
In considering the extravasation of urine from the lower urinary tract, it possibly would be advantageous to briefly review the anatomical facts which directly influence its course. These are the three fascial strata.

The superficial perineal fascia consists of two layers, the superficial and the deep. The superficial layer is thick, loose, areolar in texture, and, except toward the scrotum, contains in its meshes much adipose tissue. In front this layer is continuous with the dartos of the scrotum, in the mid-line of which it dips deeply to form the scrotal septum. The superficial layer is continuous laterally with the fatty fascia on the inner side of the thigh. The deep layer of the superficial perineal fascia, or Colles' fascia forms a thin aponeurosis of considerable strength, continuous

with the dartos of the scrotum, the fascia of the penis, and with Scarpa's fascia on the anterior surface of the abdomen; on either side it is firmly attached to the outer lip of the ischiopubic ramus. Posteriorly this deep layer curves around the superficial transverse perineal muscles to blend with the base of the triangular ligament.

The triangular ligament, or urogenital diaphragm, is composed of two layers. The structure stretches almost horizontally across the pubic arch, so as to close in the front part of the outlet of the pelvis. The superficial layer is separated from the subpubic ligament by an oval opening for the transmission of the dorsal veins of the penis. This inferior, or superficial layer, is attached at its lateral margins to the rami of the ischium

and os pubis above the crura of the penis. The fusion of the two layers of the triangular ligament takes place under cover of the superficial transverse perineal muscles. It is continuous at its base with a thin fascia which covers the cutaneous surface of the levator ani muscle and the ischio-rectal fossa. The posterior layer is attached laterally to the rami of the ischium and os pubis, and between its layers lies the compressor urethrae muscle.



A. Corpora Cavernosa. B. Urethra. C. Buck's Fascia. D. Colles' Fascia. E. Triangular Lig. Superf. Layer. F. Triangular Lig. Deep Layer. G. Prostate.

Sagittal section of male external genitalia.

Straight arrow indicates point of adherence of Colles' fascia to Buck's fascia beneath. Beyond this point, posteriorly, the attachment of Buck's fascia is variously described.

Curved arrow indicates path of bulbar extravasation,—perineum, scrotum, abdominal wall, penis.

Colles' fascia continues on abdominal wall as Scarpa's fascia.

**The pelvic fascia:** The posterior layer of the triangular ligament is really a continuation of the pelvic fascia across the pubic arch. It is from here continuous with the pelvic fascia which is attached to the lower part of the body of the os pubis, the iliopectineal line, and the sacrum.

The fascia of Denonvilliers is an aponeurotic structure which is attached to the tip of the prostate and triangular ligament, and united above to the peritoneum which descends between the bladder and rectum.

Buck's fascia is in the form of a dense fibrous envelope which surrounds the corpus

cavernosum and sends an investment for the corpus spongiosum. It is adherent to the glans penis anteriorly and at the base of the penis is continuous with the suspensory ligament above and the perineal fascia below. There is considerable dispute about the fascial planes of the penis. In Buck's original article he described the fascia as continuous with Colles' fascia, but Wesson, through injection experiments in the perineum to simulate extravasation, found evidence that Colles' fascia, although rather adherent to Buck's fascia at the base of the penis, passes down separate from Buck's fascia and envelops the entire penis except the glans.

The clinical evidence of extravasation of urine from the lower urinary tract varies with the location of the rupture from which the urine escapes. The cause of this rupture is either inflammation and ulceration of the urethral mucosa, with often obstruction distal to it, as stricture or stone, or it may be the result of trauma. Solution in the continuity of the urethral mucosa is essential for extravasation of urine to occur from this part of the tract.

**Symptomatology.**—After long continuance of the ordinary phenomena due to stricture, or urethral obstruction, a tumor develops somewhat suddenly along the course of the urethra, accompanied by dysuria and frequent urination, or by complete retention. If the extravasation is gradual, the tumor will fluctuate, open externally as an abscess and form a urethral fistula. If the extravasation is sudden—if the wall of limiting inflammatory tissue thrown out at first is suddenly broken through while straining to evacuate the bladder—a sense of something having given away is experienced, together with distinct relief of bladder tension, although no urine escapes externally, and a smarting or burning is felt about the seat of rupture. These symptoms are especially characteristic. Shortly after the rupture occurs there appears either a tumefaction at the area involved, or the tissues become markedly edematous. The skin becomes dark red, purple, or dirty brown, and some spots of gangrene appear.

The general symptoms are those of a profound septicemia and if not relieved death follows quickly in coma.

The location of the rupture of the urethra is indicated by the course the extravasating

follow the course of the rectum and appear at the anal perineum, or it may pass up below the thin pelvic fascia and pierce it at about the pubo-prostatic ligament, where it is very weak, and invade the prevesical space. This usually results in early death.

Extravasation of urine from a rupture of the extravasation takes this course is a fatal sign. I have seen one such case and that proved rapidly fatal. Extravasation from the pendulous urethra may burrow forward and open as a fistula behind the glans penis; or it may, through rapid ulceration and necrosis, break through the tissues near the site of rupture and form a fistula.

When extravasation takes place from that part of the urethra included between the attachment of the scrotum and the anterior layer of the triangular ligament, usually the bulbous portion, the course of the extravasated urine is directed by the attachment of the deep layer of the superficial perineal fascia—Colles' fascia. This is the most common site of rupture of the urethra where inflammation, infection, ulceration and obstruction are the etiological factors. The extravasated urine in this location being limited by the superficial and deep layers of Colles' fascia, it fills first the perineum just posterior to the scrotum, and the scrotum; then it extends up over the symphysis to the abdominal wall infiltrating beneath Scarpa's fascia. The fascial attachments prevent it from extending into the ischio-rectal space and the thighs. Because of the close fusion between Colles' and Buck's fascia at the base of the penis, it is usual that this extravasation does not at first involve the penis, but after reaching the abdominal wall it then descends to and involves the penis.

Extravasation of urine between the layers of the triangular ligament is rather unusual and is rather difficult of early diagnosis. Usually it is not until one layer of the triangular ligament gives way, or until the extravasating urine reaches the subpubic arch and emerges through the subpubic hiatus in the anterior layer of the triangular ligament that definite symptoms appear. These symptoms are those of extravasation from the bulbous urethra when it is the anterior layer that gives away, and it is usually the anterior layer that does give way. When the posterior layer gives way the urine may either

urine takes. If it occurs in the pendulous urethra and is not very rapid, it may remain limited, forming a blind internal fistula; or it may pass forward along the corpus spongiosum and involve the glans penis in the sloughing process. Brodie says that the appearance of a black spot on the glans when the urethra posterior to the deep layer of the triangular ligament takes the course just described where the deep layer of the triangular ligament has given way. Rupture in this area is generally the result of prostatic abscess, or injuries to the urethra, as so often seen in fractures of the pelvis. Here there is a tearing of the urethra just anterior to the bladder, on its upper surface, and due probably to a sudden violent jerk of the puboprostatic ligament.

The treatment of extravasation of urine from the lower urinary tract is prompt free incision and drainage and the prevention of further extravasation by diverting the stream of urine from the site of rupture. This is best done through an external urethrotomy or a perineal section.

The following cases have been selected from my series as they represent extravasation from the different portions of the urethra:

*Case No. 1.*—Man, aged 38, admitted to Roper Hospital April 7, 1928.

*History:* No definite history obtainable due to the delirium at time of admission.

*Examination:* There was an impassable stricture of the pendulous urethra about an inch from the external meatus. The penis was edematous, swollen, and infiltrated by extravasating urine which burrowed forward involving the glans penis in a sloughing process.

*Operation:* Under caudal anesthesia a perineal section was done and multiple incision made in the infiltrated area.

*Result:* Death few hours following operation.

*Case No. 2.*—Man, aged 40, admitted to Roper Hospital February 10, 1928.

*History:* Nine days ago he suddenly developed an acute retention of urine. This he says was relieved by his physician passing an instrument, after which he could pass small amounts of urine. Two days ago his scrotum began to swell and suffered considerable pain in this area. Later



the swelling extended up over the lower abdomen and down into penis.

**Examination:** The scrotum, penis, and hypogastric area were swollen to enormous proportions. The induration was of a boggy character. Much pain was complained of when pressure was made over the area. There was a dense stricture of the bulbar urethra, but a filiform and small tunnelled sound passed to the bladder.

**Operation:** An external urethrotomy was done and multiple incisions made over the infiltrated area.

**Result:** Recovery.

*Case No. 3.*—Man, aged 29, admitted to Roper Hospital July 20, 1928.

**History:** A week ago while using an ax the ax flew off of the handle and with the empty stick he came down with a violent jerk. At this time he felt a sharp pain in the perineum. This pain became worse and in a few days fever appeared. At time of admission the fever was 102 F. and pain in the perineum was intense. No urinary obstruction.

**Examination:** The night patient was admitted there was an indefinite finger-like swelling in perineum to right of mid-line. There was a little doubt as to whether

there was any swelling at all. The next morning the scrotum was red, edematous, and very painful.

**Operation:** A large catheter was easily passed to the bladder, so perineal section was not done. Free incision and drainage provided for. The abscess originated from the membranous urethra.

**Result:** Recovery.

*Case No. 4.*—Man, aged 30, admitted to Riverside Infirmary April 12, 1922.

**History:** Automobile truck mashed him against the wall of his garage and fractured his pelvis. This was followed promptly by an acute retention of urine.

**Examination:** Some hours following the accident I was called to see this patient. An attempt to pass a catheter failed. The obstruction seemed to be in the prostatic urethra. Fearing a rupture of the urethra posterior to the triangular ligament, I advised immediate operation.

**Operation:** A suprapubic cystotomy was done and a rupture of the urethra just anterior to the vesical neck was found. The prevesical space was filled with bloody urine. Free drainage was instituted.

**Result:** Recovery.

---

## LOCAL ANESTHESIA AS AN OFFICE AID\*

R. L. RAIFORD, M.D., Franklin, Va.

There is such a thing recognized by doctors as minor surgery; but, to the patient's way of thinking it is all major—serious—nerve-racking; an ordeal to be dreaded and endured only when it can not be longer postponed. With this fact in view and with the hope of helping to make such an experience less dreaded by the patient and the work of the doctor man pleasant—and remunerative, if you please, I present some brief remarks for your consideration.

A woman came to the office with a painful abscess of the breast. She was scared, as all people are who dread pain, thinking it would "about kill" her as she expressed it, to have the abscess opened. By using a very sharp

fine needle to inject the novocaine, doing it very gently and slowly and jollying her along as much as possible, the abscess was emptied and the dressing was being applied before she realized anything had been done.

A very nervous school girl came in with a deep cut two inches long through the thick part of the outer edge of her hand. The wound was bleeding freely and she was hysterically begging me not to take stitches in it for fear of the pain this would cause. Injection of novocaine through the wound into the subcutaneous tissues enabled me to take ten sutures before she realized that one had been taken. She came in crying hysterically; she went out smiling happily.

A small girl of twelve had a painful ingrowing nail of the right great toe which had prevented her wearing a regular shoe for sev-

\*Presented to the Seaboard Medical Association, meeting at Washington, N. C., December 4, 5 and 6, 1928.



eral months. Having experienced some minor surgery before, but not the painless kind, she was very apprehensive and would not at first consent to the necessary surgery without general anesthesia. However, by using some jolly psychology and exercising the utmost delicacy in making the application, a blocking of the toe was made near the foot that rendered the operation absolutely painless and transformed a nervous jumpy girl into a most co-operative and appreciative patient.

A little five-year-old boy with a badly fractured elbow was brought in twenty-five miles just a little before night. It seemed urgent that we fix him up so as to let him and his parents go back home that night, which couldn't be done if a general anesthetic were used. A brachial plexus block anesthetized the whole arm; the fracture was reduced at leisure under the fluoroscope and a proper dressing applied. The little fellow went right back home feeling no other inconvenience than a sleepiness of the arm, which sleepiness soon passed off.

An elderly lady with hypertension developed a bad abscess of her thumb. A carefully induced block made it possible to do painlessly a real and complete operation for drainage, which most likely not only saved the appearance and function of the member, but prevented a long drawn-out period of pain.

A young man with a deep palmar abscess which had developed from a slight cut on a finger ten days previous had been unable to sleep for three nights because of the throbbing pain. There was no sign of pointing, but transillumination located the, as yet, very small amount of pus. The whole hand was swollen and intensely tender, but novocaine made it possible to institute drainage before serious damage had been done the tissues, and the patient was saved from many days of suffering and much loss of time.

A boy with a badly cut face, neck and

scalp from an automobile accident came in for repairs. In such injuries, you will agree, much time and painstaking labor are required to approximate the cut edges so as to leave the least disfiguring scar. It would require an unjustifiably long general anesthesia to do the work properly. Without some form of anesthesia the patient would be so jumpy as to make it almost impossible to get the best final cosmetic result. Proper use of novocaine turned the trick, dozens of sutures were applied painlessly, neatly and with the best possible approximation.

Most of us have been in the habit of considering our minor surgery too lightly. When the patient comes in we do not lay the proper thought and stress on making him feel at ease and as comfortable as possible, and doing the operation with the least amount of pain.

It is surprising how patients will, because of the dread of pain, postpone a most trivial operation until they become incapacitated or even dangerously ill. It is also surprising what distance they will travel to have work done in order that it may be done without pain.

By using a very small sharp needle to begin the injections, proceeding slowly, and exercising extreme gentleness and an abundance of jolly psychology, it is remarkable how many operations we can do practically painlessly under novocaine anesthesia.

To me its use has been an abundant source of satisfaction in many ways. To get the name of doing your minor surgery without pain is the best of practice builders. Furthermore, the financial return is much greater than when the older methods with the attendant suffering are used. It takes some thought and study to work out a technic that will apply to all cases presenting for treatment, but the results and the gratitude of our patients well repay any effort that may be needed to make one proficient in this field.

#### NO INTEREST IN LIFE

*Husband* (anxiously): My wife seems not to have the slightest interest in life.

*Doctor*: What makes you think that?

*Husband*: Well, I've tried her with golf, billiards, football and racing and it's just like talking to a stone.—*Practical Medicine*.

*Preacher*: "Henry, your main enemy is drink."

*Henry*: "Yeah, and yer th' old guy what told me to love my enemies."—*Colorado Medicine*.

#### LIQUOR COMES HIGH

*Mrs. House*: "And how is your husband this morning?"

*Mrs. Holmes*: "Oh, very poorly. He's got such an expensive disease. The doctor says he must be kept in good spirits."—*Tit-Bits*, London.

#### NOT ON HIS LIFE!

*Professor*: "Decline 'love,' Jones."

*Jones*: "Decline 'love,' Professor? Not me."—*Georgia Cracker*.

## CASE REPORTS

## A SLOWLY LEAKING GASTRIC ULCER

SAM ORR BLACK, M.D.  
Spartanburg, S. C.  
Mary Black Clinic

The case herein reported is interesting in that it is a gastric ulcer, which, for twelve successive days, had been slowly leaking into the lesser peritoneal cavity.

On November 15, 1928, the patient came to the Mary Black Clinic and was admitted to the hospital. He was 56 years of age, 6 feet tall, underweight by 22 pounds, had dental cavities, and gingivitis, and pyorrhea 3 plus was present. All bony landmarks were prominent. The lungs, heart and chest were essentially normal. There was considerable rigidity of the upper recti abdominalis with tenderness grade three on palpation above the navel and between the costal margins. A definite mass could not be outlined, notwithstanding that the abdomen was very thin. Rectal examination revealed no abnormality.

The patient stated that for seven years he had had spring and fall gastric distress, characterized by fullness and burning after eating, coming on in from 15 to 45 minutes, and that it was relieved by belching, vomiting or taking soda.

For two months prior to admission to the clinic, the stomach had been worse than ever before. During that time, nourishment of any kind caused sharp pain and heartburn within five or ten minutes and lasting for an hour or more, unless he had morphine or paregoric for relief. For the past fourteen days he had been in bed at home and with more or less constant hurting through the epigastrium, with severe stabbing exacerbations immediately after taking water or food of any kind. Nothing seemed to relieve it.

The gastric contents showed blood and a high acidity; the stool had blood, and the ingestion of barium revealed a penetrating ulcer. The patient was weak, dehydrated and in an exceedingly bad way. There was slight leucocytosis, with polys. 78 per cent.

He was given nutritive enemas, Murphy drip, hypodermoclysis and morphine in small quantities at regular intervals for four days, during which time he picked up considerable strength and moisture. He was typed for

blood transfusion.

Under gas-ether anesthesia, through an upper midline abdominal incision, a large chronic and calloused ulcer was found, involving the posterior wall and lesser curvature of the middle third of the stomach. It had perforated posteriorly on to the body of the pancreas and there was a mass present fully the size of an adult fist, hard and fixed.

The lesser gastro-hepatic omentum was separated and the stomach itself was finally separated from the pancreas and mobilized. Eventually it was found that a canal extended through the inflammatory mass from the stomach to the wall of the pancreas. The ulcer and surrounding gastric wall was excised in toto. At places the stomach wall measured three-fourths inch in thickness.

The resulting opening in the stomach measured 5 by 4 inches. In closing this extremely large opening, the sutures had to be passed from the anterior to the posterior wall and back again instead of from the cardiac to the pyloric border.

Ordinarily a sleeve resection would have been performed, but in this instance it was decidedly indefinite at the beginning as to whether or not the gastro-pancreatic attachment could be separated. After this was done, the patient's condition being bad at best, simple excision seemed the easiest way out, with a gastro-enterostomy 10 to 12 days later—a two stage operation.

The completed gastric closure revealed a stomach of just about the diameter and shape of a Cuban banana.

The patient's convalescence was uneventful throughout. His stomach handled its incoming nourishment so nicely that he refused further surgery and left the hospital on the 15th day.

Our experience with simple excision for gastric ulcer has been that about one-third of them get along nicely and remain symptom-free. The other two-thirds have sufficient trouble to warrant further surgery or treatment at a subsequent date. It is, therefore, our policy to combine the Bilioth number 2 or some modification of it with the excision whenever the patient's general condition warrants.

Rarely, if ever, do we simply perform gastro-enterostomy for gastric ulcer. If the ulcer-bearing area can be directly attacked, we go after it either by cautery or knife excision. When the ulcer is on the upper or anterior wall of the pylorus or duodenum, we excise it, and leave the posterior wall intact. The closure is made by beginning the anastomosis at the top and carrying it down to about the middle of the anterior aspect and tying it there. Then begin at the bottom and run up to and meet the suture line already made. This technique simplifies closure, and insures perfect coaptation at the upper and lower angles, respectively.

If the ulcer is very large and on the posterior wall down near the pylorus and causing obstruction, one is occasionally compelled to do simple posterior gastro-enterostomy, though there is now an increasing number of surgeons advocating pylorotomy with direct anastomosis, the so-called Bilroth number 1 operation. An alternative is to close both the stomach and duodenal ends and to connect the stomach to the bowel by means of a new opening, the so-called Bilroth number 2. Still another alternative is to close and invert the duodenal end and to anastomose the stomach end direct to the jejunum, either anterior or posterior to the transverse colon.

Over 90 per cent of the gastric ulcers operated in the Mary Black Clinic have occurred on the posterior wall of the lesser curvature and in the middle one-third of the stomach.

Compared with duodenal ulcers, the ratio is about as 1:7. In 3.5 per cent of the cases, an ulcer will be found in both the stomach and duodenum.

A gastric ulcer may be benign or malignant. One frequently cannot differentiate between a benign and malignant ulcer except by histologic diagnosis. The treatment of gastric ulcer therefore, in the main, is to be more radical than is the treatment of duodenal ulcer. A small ulcer on the anterior wall is frequently secondary to a larger one on the posterior wall.

After operation, we have found that the acidity can be kept down by the administration of much smaller doses of alkali than Sippy had led us to believe. Frequently 3 to 4 grains administered at intervals of 1 to 2 hours suffices while in the hospital. Larger

doses over a longer period of time occasionally produce alkalosis.

---

#### MALTA FEVER—REPORT OF CASE

J. MELVIN THOMPSON, M.D.

Mebane, N. C.

GEORGE L. CARRINGTON, M.D.

Burlington, N. C.

The widespread occurrence of infectious abortions among cattle, the close relationship or identity of the organism causing this disease and that causing Malta, or undulant, fever in humans, and the increasing frequency of infections among humans in this country with *B. melitensis* or with an organism culturally and morphologically identical with it, and with *B. abortus*, make it rather important that all proven cases of infection with one of these organisms should be reported. The present indications are that during the next few years this disease will be of increasing importance.

#### Report of Case:

A white boy, aged 14 years, admitted to the Rainey Hospital June 24, 1928.

Father aged 42, mother aged 43 and one sister aged 8 years living and well. One sister died at the age of three with a diagnosis of "acidosis," cause undetermined. There had been one still-birth at term. The patient had probably been exposed to tuberculosis in a paternal aunt.

The patient's general health had been good. He had influenza at the age of three years, and had several attacks diagnosed as "acidosis" before the age of six years. At that age his tonsils were removed. From that time until the onset of the present illness he had been in good health.

The onset of the present illness was quite gradual. During the fall of 1927 it was noticed that he was rather pale and listless. About Christmas he complained of soreness in the joints. These joint pains increased in frequency and severity until he became so definitely sick that he had to take to his bed on April 20, 1928. In February he had begun to have headaches, and his father thinks that he had some fever at that time. No physician was consulted until April 20. At that time the marked soreness in the joints associated with a febrile reaction made a diagnosis of acute rheumatic fever seem prob-



able. The soreness, however, continued to travel from one joint to another with few local signs. One week after the patient was put to bed he developed a marked hematuria. This lasted for several days, cleared up and then recurred from time to time during the subsequent course of the illness. The headaches having persisted, the boy was sent to a nose and throat hospital where he was treated for a nasal infection that soon cleared up, but this wrought no change in his general condition. During May 11-31 he was studied in another hospital where blood cultures were made with negative findings. His urine at that time contained blood and a mixed flora. A tuberculous kidney was suspected though pyelograms and guinea pig inoculations were negative. For a short time after his return home he appeared better and took more interest in his surroundings, but soon again became worse. A few days before admission to the Rainey Hospital he was aspirated in search for a possible hepatic or subphrenic abscess—with negative findings. His temperature was running 99-103 with a definite tendency upwards.

Examination—Temperature 102, pulse 100, respirations 20. The patient was pale and rather emaciated. The skin and subcutaneous tissues boggy and brawny. There was some fever, and evidently one unusual for this locality. So we called upon Dr. D. A. MacPherson, professor of bacteriology in the medical school of the University of North Carolina, to help us. We sent him four specimens: (1) an excised inguinal gland, (2) a tube of blood taken with aseptic precautions, (3) a specimen of urine, and (4) a specimen of feces.

His report was as follows:

"We have isolated from the blood clot and from the feces an organism in the alcaligenes group. This group contains the two pathogenic organisms *Alcaligenes melitensis*—causal organism of 'Malta fever'—and *Alcaligenes abortus*—causing abortions in cattle and undulant fever in man. It also contains *Alcaligenes fecalis* which is generally considered non-pathogenic, but of course should not be found brownish pigmentation of the skin. The epitrochlear, axillary, cervical and inguinal glands were enlarged. The pupils reacted to light and to accommodation. The tongue and mucous membranes of the mouth were red and ulcer-

ated. The neck was slightly stiff. The heart and lungs were essentially normal. There were a few spots on the abdomen that rather resembled rose spots. The spleen was not palpable. Movement of the joints was painful. The right costal margin was a little more prominent than the left, and there was definite tenderness over the gall-bladder region. Kernig's was absent; Babinski's, equivocal; knee jerks and cremasteric reflexes about normal. Hemoglobin 47 per cent, red cells 2,570,000, whites 5,600. The urine contained albumin, red blood cells, white blood cells and many granular and hyaline casts. It was negative for sugar. The widal reaction was negative.

Upon admission we naturally were uncertain as to the diagnosis. His appearance resembled in some respects an unusual case of paratyphoid fever that one of us had seen. It was patently an infectious process, however, in the blood stream. Now the cultural characteristics of these three are much the same and the differentiation is best made by serological means—agglutination tests. We do not have such serum so we cannot complete the diagnosis further at this time."

Upon Dr. MacPherson's suggestion we forwarded to the Hygienic Laboratory at Washington some of the patient's serum for agglutination tests, and three days later received the following report:

"Serum of C. P., Jr., was tested by agglutination for undulant fever with entirely negative results."

The patient was treated symptomatically. He was given four blood transfusions of 400-500 c.c. of citrated blood each. In addition to the transfusions he received Lilly's Liver Extract No. 343 in an endeavor to keep his blood and resistance up. The anemia showed some improvement but the leukopenia became more pronounced. The hemoglobin rose to 55 per cent and the red blood cells to 3,420,000 but the white blood cells dropped to 4,400. The temperature range continued upward 101-104. He became semi-conscious. The organisms appeared to swarm through his whole body. The Babinski became positive on both sides, and he developed bilateral ankle and patella clonus. His eyes pointed to the left. His temperature rose to 105, pulse 140 and respirations 48. He died July 10 with the terminal signs of central nervous



system involvement.

Our knowledge of the organism or organisms concerned with Malta fever and infectious abortions in cattle is by no means complete. The failure of serum from a culturally proven case of this disease to agglutinate a known strain of *B. melitensis* appears to be rather frequent. On the other hand cases of

tularemia are reported often to give high agglutinative reactions against the undulant fever organism. So at present a great deal of confidence cannot be placed in these reactions. The recovery of the organism from the blood seems to be the only sure method of diagnosis, though the disease may be suspected from its clinical course.

---

## Miscellany

### AN EPISODE OF THE 1899 MEETING OF THE BOARD OF NORTH CAROLINA MEDICAL EXAMINERS

Thos. E. Anderson, M.D., Statesville

Best memories of events of cosequence be interred with our bones, it is sometimes well to publish them, ere the entombment.

An incident somewhat out of the usual lines occurred at the Asheville meeting of the Board of Medical Examiners in 1899. I had the distinction of being secretary of the board then in office. My services on the board included 1896-1902. The board as then constituted (the eighth) contained some of the choice spirits of the Medical Society of North Carolina. Their names are faithfully recorded in *The Chronicles*; as Captain Cuttle said "when found make a note of it." We met then with the North Carolina Medical Society. All was bustle in the hall as I recorded the names of the candidates for license as they turned the green on me in the shape of \$10 bills. This was the first procedure after reading the credentials presented by each applicant. There were one hundred and forty applicants, as I recall.

This is commonplace so far. The incident requires a backward glance.

It was quite common for the secretary to receive letters, previous to the meetings from those close to the aspiring young men, setting forth their merits and always asking careful consideration, sometimes more. Several days before leaving home I received a letter from a lady, showing much culture, and pleading specially for a young man, a country boy, the only son of a widow who had lavished her all on him in preparing him for the ordeal of coming before our board for his li-

cense. She said, while poor, they were most worthy and that the boy's education, from lack of means, was most meager. She asked my deepest interest, and incidentally stated, "I was a schoolmate with your wife at Peace, where she was held the most beautiful of the entire body and most gifted." She gave not her former name but her married name, hence my wife, who was interested, could not place her. But she had me fixed up to my price by this praise. The day before leaving home I received a telegram from Baltimore from the young man saying he would be one day late but to register him. This lady had given his name.

Among the press around my table, a young man bearing this name threw down his letters of credit and the \$10. I looked up at him at once and made a careful survey. Instead of a poor boy of the open fields he had decided city airs, with latest derby in his hand. I told him I received his telegram, but stopped the column long enough to ask the prenuptial name of my wife's classmate and admirer who had so warmly championed him. He backed and filled and showed confusion, said he had been a long time out of that community. I told him he surely should revive his memory and give this lady due credit and determined to press the case further. So I, in company with that most popular and gifted member of our board, Dr. David T. Tayloe, sought him after our close and plied him with more questions. I asked him the name of his country town, the names of the physicians there and what counties bordered his. His backing and filling became automatic but not retroactive; while he seemed to have all the facilities for

speech he was speechless; with much suffused countenance he got out nothing. Dr. Dave, with his unerring perspicacity, said it deeply impressed him as a case of "water on the brain." We left him. I was yet in the dark. As Dr. Tayloe and myself walked out up the street I felt a touch; it was the young applicant now full of speech and penitence as he detailed to me how, from pity alone, he had stifled his conscience and come all the way from Baltimore to put up the contemptible job of substitution for this poor country boy with only one widowed mother whom poverty had denied the means of education! This Baltimore rascal told me he held a high

position in a hospital in Baltimore and that he was from Savannah, Ga., of a family of high repute. I told him with all the paucity of my words allowed me to say enough, without any mental reservation, to meet the case, retaining his \$10 bill and besought him to reform.

I suppose the poor but thieving young man of limited education was somewhere lurking in the background. We made a record of the name of the young man and ruled him out here and hereafter. I don't know his future history. His lady friend furnished the fatal dart which caused his undoing.



## PRESIDENT'S PAGE

*Tri-State Medical Association of the Carolinas and Virginia**Jas. K. Hall*

Dr. Andrew Johnson Crowell, of Charlotte, and Dr. Robert Wilson, of Charleston, both of whom have lately been presidents of this organization, have advocated and urged the use of clinical material at our annual meetings as one of the best methods by which to arouse good medical thinking. Improper and incomplete diagnosis arises often out of poor diagnostic vision. Often we are too hurried in our observations of the patient, and we are frequently careless in our attempts "to take in" the patient. The word diagnosis implies thorough understanding of the sick person, and such understanding involves the development of a good life-history of the patient. Some of us are unable to develop such a history because we have not taught ourselves how to do it, but many more of us neglect the evolvement of a comprehending history because we are unwilling to give an adequate amount of our time to a study of the patient's past life. Such labor is made necessary if an informative history is to be obtained. As a nation, we are what we are because of our past, and in terms of health the individual's present condition is the biological result of the particular journey he has been traveling. Our individual roadways have their origin in the dim and distant past. Much of the roadway was built by our ancestors before the dawn of recorded history, and such roadway construction is made known by studies in embryology. Unless we are able and willing to try to find out where our patients have come from and at what speed they have been traveling, we can not comprehend their present state of health. The writing of history of any kind is a high art, and the proper interpretation of historic observation calls for broad knowledge. But, after all, we are rather gossipy creatures, interested fundamentally in each other. Our concern about material matters is largely affected. We are interested in reality only in ourselves and in other selves. And no other human being has such an opportunity to develop a profound knowledge of folks as the doctor. If the doctor is made out of the right

stuff he will have an insatiable scientific curiosity to know his patients to the bone, and if he so knows them he will be a better doctor.

Philosophically, the practice of medicine is simple and fairly easy. The requisites for its practice are the ability to get a good history of the patient, keen powers of observation and the well-directed and thorough use of such powers in the diagnostic survey of the patient, and the knowledge that will make possible rational therapy. Simple? Easy? Possible? Every great man is simple. Every great accomplishment was simply, though not always easily, done. But we must strip the proper practice of medicine of its mysteriousness and impossibility.

Well, definite and specific steps in this direction are going to be taken at our meeting in Greensboro. Some clinics, for instance, are going to be held, at which we are going to be taught how to discover disease, how to identify it, what name to give it, and how to treat the disease.

Doctor Thomas McCrae, of Philadelphia, is going to be with us. Out of his long and fruitful clinical experience he is going to speak to us and he is going to hold some clinics. There is probably no better clinician in North America than Doctor McCrae. For many years he has been teaching medicine at Jefferson, and prior to that period he had teaching association with Dr. Osler at the Hopkins. He is a vigorous advocate of the method which makes use both of the didactic and the clinical presentation. There must be many doctors who will be glad to direct some of their patients who have obscure and puzzling conditions to Doctor McCrae's clinic at the O. Henry.

And arrangements are being made to have at the meeting a good pediatrician, another specialist who understands disorders of the skin, and another who will attempt to rationalize disorders of conduct. It must be remembered that the mentally disordered individual is trying through his curious behavior to do exactly what all the rest of us are also



attempting to do—to adjust himself as best he can to the world around him. In that effort some of us drink whiskey, others take drugs to change their feelings, and still others evolve delusional ideas. All these things have a meaning of their own. To understand individual conduct is to understand the individual. And we shall have for our instruction also a laboratory clinician who will be able to tell us in brief compass what analyses of the fluids and the juices of the body reveal with reference to the state of health of the physical being. And an allergy clinic will be entertaining and informative—allergy, that curious and unexpected individualistic response to some ordinary object in the environment.

Our own members come from far-flung territory—from the marshes of the coastal region, from the Piedmont (the foot of the mountains) to the summits of the high peaks in Western Carolina. Their experiences are varied. Many of them have already taken a place on the program. The young men in

the profession should begin early in their careers to record their observations and their experiences. Paper holds the observation better than memory. The other day a young doctor cut from the inner surface of the lower lip of a young woman a thread-like white worm an inch or two in length. He spoke to me about it. I allowed him no rest until he had that worm for identification purposes in the laboratory of the Public Health Service in Washington. The condition is exceedingly rare—only one or two other cases have been reported in this country. And at our meeting the doctor will tell us all that is known about Gongylonema. I am anxious for us to have brief, concise, interesting case reports—lots of them.

And your young medical neighbor—bring him into our organization. It is the best place for him, and his eagerness and enthusiasm will do us all good.

Have you asked for a place on the program? Have you engaged a room at the O. Henry? Time stands not still.



# *Southern Medicine and Surgery*

JAMES M. NORTHINGTON, M.D., *Editor*



Dr. Thomas Fanning Wood

Dr. Edward Jenner Wood

## THE DOCTORS WOOD

Rarely, indeed, it is, that father and son tower above their fellows, and it is even more rare for both to distinguish themselves in the same calling. The records made by the lives of Dr. Thomas Fanning Wood and the son he named for Dr. Edward Jenner afford a brilliant illustration of this rare family achievement.

When I learned that Dr. Edward Wood's work had been brought to an all-too-early close, I thought of the great things he and his father had done, and resolved to assemble and publish all that could be readily gathered of these great deeds; and, along with these, to publish testimonials of appreciation and admiration of the qualities which made father and son the men they were.

The elder Dr. Wood I never saw. His life ended long before my medical life began. The record of his achievements, writ large as it is in the archives of the organizations which have to do with matters of health in the State and Nation, have yielded a rich store of information which will be found under the names of other contributors to this

number. But such marvelous things will bear repetition without becoming stale; they have a perennial freshness and greenness.

"The State Board of Health owes its origin to the enlightened mind and benevolent heart of the late deeply lamented Dr. Thomas F. Wood \* \* \* \* the feeble infant was nourished at his own breast." "He was a man of high ideals, and he lived up to them." "He never failed to come up to the measure of a well-rounded manhood." "It is needless in this presence to say aught of his labors for this Society [State Medical] or its offsprings, the Board of Medical Examiners, and the State Board of Health; you all know that he was instant in season and out of season in his earnest work for the best interests of them all." "In all that elevates and ennobles the human race, Dr. Thomas F. Wood was a shining example." "His loyalty and devotion, his watchful care and self sacrifice, his wise counsel and liberal support, will be remembered and prove an inspiration to every member of this society who value an honorable name." Thus spoke Lewis, Raleigh; Thomas, of Wilmington; Bahnson,

of Salem, and McNeill, of Fayetteville!

Dr. Thomas Wood's leadership in medical matters was greatly facilitated by the vigorous policy of the *North Carolina Medical Journal*, which he edited till shortly before his death. A fine sentence of his autobiographic sketch says:

"In 1878 he founded the *North Carolina Medical Journal*, and has continued in the self-imposed office of editor ever since, furnishing to the North Carolina medical profession a medium of professional intercourse, and keeping alive the interests of the Medical Society and its auxiliaries, the Board of Medical Examiners and the State Board of Health, by the zeal and vigor of that publication." There are clearly set forth the functions which a medical journal, reasonably supported, can perform. It is pleasing to see too that in my own occupancy of a "self-imposed office of editor", I have so distinguished a predecessor.

Much as he accomplished in other fields, the State Board of Health, his own in concept and nurture, was and is his *'magnum opus'*. We sometimes speak of those who have ceased from their labors as having passed off the stage. When I think of our wonderful State Board of Health, which has done such great things as to make the name of North Carolina known wherever Hygieia is held in honor, it seems fitting that his mighty shade should be lingering in the wings, looking upon his handiwork and seeing that it is good.

The details of Dr. Edward Wood's life have been well set forth in previous pages.

I came to know him personally some sixteen years ago, at a District Medical Society meeting, to which I presented a paper, which he discussed with generosity and enthusiasm. Previously he had been well known to me through his publications. The ensuing years have brought few intimate contacts and only a desultory correspondence had been kept up until my assumption of the role of editor provided the reason for a more frequent interchange of thought and fact.

Directly after the appearance of my very first issue, a letter came from Dr. Wood from which I quote: "I am sincerely delighted and feel like staying in the state and lending

you a hand in trying to make this the best publication anywhere." A month later he wrote: "What you do will soon shape medical thought and policy and this journal can be to our profession what the Greensboro *News* is to the state generally, and I can find no higher praise than this." Looking back over our correspondence I am amazed at its bulk, no less than at the reminders of frank, outspoken criticism, favorable and unfavorable, all of which has been of the greatest value.

How much the cause of medicine would be advanced, how many lives would be saved, and how much more of satisfaction would be derived from the practice of our profession if every one of us would take this to heart: "I like to recall the view of Sir James Mackenzie which we had repeated to us so often by him that each bedside observation was a problem in original research \* \* \* \* \* I think every practitioner of medicine should require of himself that twice a year at least he report something coming under his own observation in a decent medical journal!"

Many and diverse were his plans for helping in this work, and he was eager for this service. He wrote: "I am with you sincerely and when you want my help issue your orders and I will comply"; but his strength could not measure up to his zeal, and no more than twenty-four hours are to be found in a day for any of us.

When Dr. Henry A. Christian honored this journal with the manuscript of his address on pernicious anemia to the New York Academy of Medicine, an address in which Dr. Wood's original observations as to the kinship of pernicious anemia and sprue were supported, Dr. Wood wrote me, in a proud and eloquent sentence, "A Boston man comes to the rescue of a North Carolinian in a North Carolina journal."

His contributions to the pages of this journal were many, and they would have been many times more had he not been so occupied with his sections of text-books and had his research work not been reportable only in the publications of the American Association for the Advancement of Science. He proposed to contribute articles on Sir Patrick Manson, Osler, MacCallum and others of the great with whom he had been long in intimate



association. His last European trip and the breakdown which came in London brought these projects to naught.

When Dr. Richard Lewis died I hoped that the vacancy thus made in the membership of the State Board of Health would be filled by Dr. Wood, though he "would not raise a finger to secure the appointment."

When he decided to take what proved to be his last course of study in Europe (1926) he wrote me in warm terms urging that I accompany him. Sometimes I have wished that I had done so. In October of that year, having in mind contributing a sketch of the life of Dr. Thomas Wood for a projected "History of the Physician," I wrote him in London. Before he received my letter one came from him saying that he was ill in a London nursing home, that he did not expect to recover, that he would be buried in Wilmington, and that he wanted only "a decent obituary, merely facts in unadorned and brief English." Lying there on the bed from which he did not expect to arise he wrote that he had hoped to write me some exclusive London medical letters, that he had on his desk for me "The Reappearance of Pellagra," about half done, and something on the preparation of the new vaccine for pernicious anemia. The same letter enthusiastically urged that sketches of many others of the great doctors of North Carolina be prepared, especially of "capable backwoods-men who held the torch on high so worthily." Daunted not at all by the near approach of Death, and despite his bodily ills, his mind pursued its wonted way with the problems of curing the sick and honoring the dead.

But he was not to die in a foreign land. March, 1927, found him back in Wilmington, and, despite serious physical handicaps, attacking medical problems with almost all his aforesaid vigor. He wrote then that he would have to go slowly, but he hoped to be able to do something to manifest his loyalty and help on the work [of medical journalism] from time to time.

Soon afterward there came a copy of a letter which he had written Professor Irving Fisher, of Yale, concerning a reprint on life extension work which Professor Fisher had sent out. In this letter Dr. Wood vigorously protested against the niggardly fees paid doctors by these life extension bodies, and this

protest was an unselfish service to his fellow doctors, since he did no such work himself.

About this time, it becoming evident that the "History of the Physician" movement was not in the best odor, I decided to go no further with the project of supplying for it a sketch of Dr. Thomas Wood. Dr. Edward Wood wrote me (August, 1927): "I am particularly pleased that you were not caught in such a trap," and expressed his intention "if things go well with me" to undertake a biography of his father during the (then) coming winter. In that same letter he said he had interesting notes on a series of cases of Addison's disease and on Friedrich's ataxia "which I had hoped to have ready for publication long ago"; and told me exultantly that Minot had allotted him a share of his "liver fraction."

In October he contributed to this journal an excellent critical abstract of Sir Andrew McPhail's address to the American College of Surgeons, meeting in Montreal, on "American Methods in Medical Education." A little later he sent in the quaint, fine "Goodbye Doctrine and Instruction" for doctors, by Dr. John Hall, who died in 1564; and, in November, a vigorous letter of commendation of an editorial of mine on "Unfair Competition," in the course of which letter he expressed the hope that "our service clubs and other boosting organizations might learn that medical service sought for elsewhere can be equally as well or better done at home."

From this time almost to the very day of his death his letters disclosed his failing strength and his refusal to recognize the extent of this failure. These letters are made up largely of references to unfinished things which he hoped soon to bring to completion. He wrote most enthusiastically about the controversial debate in the meeting of the American Gastro-Enterological Association on gall-bladder drainage, and was keen to supply an account; but he didn't get around to it. The last letter I received from him is dated August 28th. Far from being the letter of one who regarded himself as an invalid, it is filled with ambitious projects—the book he and Dr. G. M. Cooper were writing, "Two Decades of Pellagra"; his part in Symposium on Deficiency Diseases to be held at the Massachusetts General Hospital next spring; a paper on obscure fevers which he was to

supply for the next issue of this journal. In less than three weeks he lay dead!

Dr. Edward Wood lives in my memory as characterized by two attributes—his loyalty and his zeal. Like Woodrow Wilson he had few intimates; none, indeed, beyond a certain boundary. He shared with the great War President a greater love for mankind than for man. It followed, necessarily, that his loyalty would be to ideals and ideas—a far finer thing than loyalty to individuals. His zeal carried him forward in the causes to which his loyalty committed him.

The cause of Medicine in North Carolina has never been better served than by the Father of the State Board of Health and his doctor son. A fitting memorial should be erected to commemorate this great service. I confidently predict that this memorial will be consonant with their lives. Scholarly gentlemen that they were, both, and both imbued with a consuming zeal for promoting health and staying death, who can doubt that they would be best pleased should such a memorial take the form of a scholarship in medicine to provide that, from generation to generation, the torch of Medical Science which they held so high, and so far advanced, shall be carried on and on?

---

#### THE PRESENT CONCEPTION OF SOME PHASES OF GYNECOLOGY

With the exception of the work of Sampson and others upon endometriosis, there have been no notable discoveries or epochal advances in gynecology in the past quarter of a century. However, during that period there have been many changes. Numerous so-called remedies have been discarded and new ones are being tried. No longer do the tampon, the pessary and the uterine applicator occupy the most conspicuous place in the gynecological equipment. The meaning of emmenagogues is almost unknown to the younger graduate. The improvement in operating room technique and general operative skill among surgeons and gynecologists has obviously led to better results in pelvic surgery than we had twenty-five years ago. Less and less do we blame the ovary for all lower abdominal pains in women, nor are we so prone to correct trivial abnormalities in the pelvis with the hope to thus cure various and

sundry disorders in other parts of the body. More and more are we learning to properly correlate pelvic symptoms, pelvic pathology and the benefits to be derived from pelvic operations.

I shall enumerate some of the common gynecological conditions and discuss briefly, even at the risk of being dogmatic, what we may reasonably hope to expect from the proper treatment.

Leucorrhea may be either a hypersecretion of a normal character or it may be an abnormal secretion. In the first case it becomes merely a disagreeable symptom without significance. In the second it is a manifestation of some disease the cause of which should be sought for. In the treatment of leucorrhea *per se* the curette is not only absolutely useless but harmful; the douche is merely cleansing, not curative, and will do in its location just what soap and water will do for the face. The glands deep in the cervix are the seat of the discharge, and the electrocautery offers the best and simplest method of relief. Radium has been tried and some clinics report success, but the risks of unfavorable complications do not justify the use of such a powerful agent in this benign condition.

Curettage for the removal of the products of conception and for obtaining material for suspected malignancy is at times most valuable. At all other times it is practically useless if not harmful. It is possible that in a very small percentage of cases of dysmenorrhea and sterility the dilatation which precedes curettement might be of slight benefit but certainly not the curettement itself.

All gynecologists, and most surgeons, now examine the secretions of the husband before rushing into operation upon the pelvic organs for the cure of this condition. The excellent work of Huhner and others have taught us what a complicated subject this is, and in what small percentage of cases gross pathology plays a part. I believe we are on the threshold of important discoveries in that field.

By pelvic inflammatory disease we mean that general picture of inflammation usually caused by the gonococcus, and which extends from the external os up the uterus through the tubes, involving the ovaries and frequently the pelvic peritoneum. The relative ex-

tent of involvement of the various structures depends to a certain degree upon the duration of the infection. At first, infection of the cervix with the copious yellowish discharge; later the heavy dragging feeling across the lower abdomen from involvement of the tubes; and finally the severe pain and increased disability of a pelvic peritonitis. Never should operation be done in the acute stage, for then it surely means complete removal of all the pelvic organs at some risk to the life of the patient. Conservative treatment will obviate necessity of operation in many cases; and should operation become necessary in others, occasionally some of the pelvic organs can be saved.

Most gynecologists now feel that radium is the treatment for cancer of the cervix. Some still hold that radium followed by radical operation is the method of choice. Presumptuous indeed is he who still maintains that operation to the exclusion of radium should be used in these cases. (For carcinoma of the body of the uterus, surgery is absolutely indicated and radio-therapy should never be used). For small myomata and for the obscure bleedings during the climacteric, radio-therapy—preferably x-ray—gives excellent results, but should only be used after carcinoma has been positively excluded.

There is no doubt that many of the symptoms referable to the pelvic organs, and for which we do various and sundry operations, are really of endocrine origin. About this subject, however, we know so very little that our treatment along these lines is almost entirely empirical and usually useless.

The displacements, especially prolapsus following child birth, are of course amenable to surgical treatment, and the results are on the whole good.

In conclusion let me put in once more a plea for the poor, defenceless retroflexed uterus in the nulliparous. It has perhaps suffered more maltreatment than any other organ in the body. The various methods of suspension and their modifications, are legion. Let us remember that a symptomless retroflexion does not demand a suspension. Also that if there are present pelvic symptoms and it should so happen that there is also a retroflexed uterus the burden of proof is on the gynecologist to show that there is at least a strong probability that those symptoms are

caused by the displaced uterus before the woman is subjected to the discomforts and danger of an abdominal operation.

*F. Webb Griffith, Asheville.*

#### WHY DOCTORS SHOULD BE ACTIVE IN POLITICS

Medical men are taking a greater interest in politics than ever before, but that interest should be increased to the point where the opinion or advice of the medical profession as a whole will be heeded by politicians and law-makers. That this is indicated is best told by the action of one of the representatives who served in the last Indiana legislature. He admitted that he was in favor of upholding scientific medicine, but he frankly stated that in his neighborhood a few medical pretenders who took an active interest in politics and were good mixers had such an influence that from a political standpoint he had to side with them, and particularly as the reputable medical men in his vicinity were apathetic and made no attempt to have their influence felt in politics. It should be remembered that the average legislator does not vote as his conscience dictates but as he thinks he should vote in order to retain popularity or continuance in office. Therefore, when the members of the regular medical profession, whose opinion should be respected, take an active interest in politics, then and then only will the politicians sit up and take notice. A very large majority of the politicians are looking for votes, and if those opposed to scientific medicine are putting forth their best efforts to win recognition and favor, it is a sure bet that they are going to succeed over an apathetic medical profession that does nothing to arouse sentiment and create tangible sympathy for scientific medicine. It is not necessary to stoop to questionable methods in order to bring about a healthy sentiment among legislators concerning legislation that is necessary for the support of scientific medicine and the protection of public health. *The trouble with medical men is that they are not united in purpose as they should be, nor do they become active in the support of means and measures so necessary for their own salvation as well as the salvation of the public insofar as medical education and practice is concerned.* [Italics ours.—S. M. & S.]—Editorial, *Jour. Indiana State Medical Assn.*, November, 1928.

Legislators have voted to license beaters, rubbers, shockers and layers-on-of-the-hands, through no love for them, but because they were organized, acted as units, and cast votes in blocks. Some few are influenced by the array of witnesses who testify to having been cured. This can readily be counteracted by reminding those of any intelligence of the natural tendency to recovery, and the getting-together of a few details concerning those of the "exhibits" which can be proved to be fraudulent. The major influence can be flatly met by instituting a movement to have regular doctors drop their "holier-than-thou," "it-isn't-worth-noticing" attitude; quietly remind their patients from day to day of their dependence on regular medicine; keep a record of the votes of legislators in all our halls on health measures; discuss these matters fully in our meetings, and vote for those men who show both sufficient intelligence and sufficient honesty to espouse the cause of the science which protects humanity against the quackery which preys on it.—



Editorial, *Southern Medicine and Surgery*, January, 1925.

In our opinion the foregoing quotations contain all that should need be said to induce regular doctors to concern themselves with the problem of who shall make and who shall execute the laws under which we live—and oftentimes groan.

As a doctor we have a grave concern in these matters, a concern which touches our daily bread.

As editor of a medical journal, we have a responsibility to ascertain and interpret the facts, as best we can, to the end that neither regular doctors nor trusting sick folks shall suffer and die, because of the putting into political office of those so foolish or so knavish as to oppose vaccination against smallpox and typhoid, or the administration of antitoxin for diphtheria.

As a man with an inheritance of a love of local self government, a government in which, all the way from the individual to the Federal union, "All powers not expressly delegated are reserved," we purpose voicing our opinions on government in lay periodicals.

As doctor and editor of a medical journal we fully intend, from time to time, to inquire into the attitudes of candidates for office toward the things which regular medicine stands for, and to get expressions from such candidates put on record *before* the election; and, when it is clear that certain ones favor our cause, lay ourselves out to have them elected.

Moral suasion has not proven the potent influence its most enthusiastic proponents hoped it would be. There is still much to the symbolism represented by the American Eagle holding in one talon Peace,—and in the other War.

#### DR. C. BANKS MCNAIRY MEMORIAL

In the death of Dr. C. Banks McNairy, of Lenoir, N. C., the medical profession has sustained a great loss.

It is fitting that the memory of such an outstanding man should be perpetuated in an appropriate way and it has been proposed to start a fund for a flower garden at Barium Springs Orphanage for this purpose. Nothing could be more fitting or more appropriate.

Anything you wish to contribute to this fund, kindly forward to Dr. James W. Davis, Secretary and Treasurer of the Ninth District Medical Society.

This fund will be turned over to Mr. Joe Johnston, Superintendent of Barium Springs, and will be used

to start a flower garden at some suitable place there.

#### NINTH DISTRICT MEDICAL SOCIETY,

Dr. Roy C. Tatum, *President*,  
Dr. Glenn Frye, *Vice-President*,  
Dr. M. R. Adams, *District Councilor*.  
Dr. James W. Davis, *Sec. and Treas.*

We are glad to put before our readers the content of a card received in the past week. Certainly all friends of Dr. McNairy who would wish to have a part in making possible this fitting memorial can not have been reached individually.

We avail ourselves of this opportunity to again call to your minds those qualities of mind and heart which won for Dr. McNairy the esteem of eminent men engaged in similar labors for those whose endowment in mentality was below that of their fellows, and—what is more important and appealing—which won him the unflinching love of the pitiful charges who found in him a helper and a comforter.

#### HONEST ADVERTISING

Under the caption heading this column, *The New England Journal of Medicine*, a publication which has for more than a century stood for all that is best in medical service, speaks out against certain newspapers hiring their columns to medical fakery, and commends one paper for declining to enter into partnerships with such persons. Following is the editorial in full from the issue of November 15th:

"The Journal has before this called attention to the commendable policy of *The New York Times* as regards the advertising material which it will accept for its pages. Now that the New York Tuberculosis and Health Association has openly expressed its approval of this policy, it may not be amiss to call it again to the attention of our readers. The Twelve Commandments of *The New York Times*, setting forth in detail what it declines for its columns are as follows:

- 1—Fraudulent or doubtful advertisements.
- 2—Offers of something of value for nothing; advertisements that make false, unwarranted or exaggerated claims.
- 3—Advertisements that are ambiguous in wording and which may mislead.
- 4—Attacks of personal character; advertisements that make uncalculated reflections on competitors or competitive goods.
- 5—Advertisements holding out the prospect of large guaranteed dividends or excessive profits.
- 6—Bucket shops and offerings of undesirable

financial firms.

- 7—Advertisements that are indecent, vulgar, suggestive, repulsive or offensive, either in theme or treatment.
- 8—Matrimonial offers; fortune telling; massage, unless licensed and license number is given.
- 9—Objectionable medical advertising and offers of free medical treatment; advertising that makes remedial, relief or curative claims, either directly or by inference, not justified by the facts or common experience.
- 10—Advertising of products containing habit-forming or dangerous drugs.
- 11—Help wanted advertisements which request money for samples or articles.
- 12—Any other advertising that may cause money loss to the reader or injury in health or morals, or loss of confidence in reputable advertising and honorable business, or which is regarded by *The Times* as unworthy.

The majority of our Boston newspapers, certainly, entertain no such ideals about their service to the public. A moral little paragraph is frequently published entitled *Truth In Advertising*, but it is a sop to Cerberus; it is not even intelligently used as a smoke screen, for it may appear on the same page with advertisements which outrage common decency. No; our Boston newspapers on the whole believe in no Advertising Index Expurgatorius, for even the revered *Transcript*, which always means well, is not above making its sacrifice to Mammon in the form of *Marmola*."

This is in line with the record of a great journal whose editor takes his editorial duties seriously. We recall with gratitude the vigorous endorsement this editor gave, two years ago, to our own expose of a notorious faker, and protest against newspaper complicity. At that time the Mecklenburg County Medical Society passed a resolution one article of which reads:

"Resolved, That we hold it an act prejudicial to the health of the people of the state for a newspaper to give space to claims of any one representing himself or herself as qualified to advise in matters of health, until testimonials have been carefully investigated, by direct communication when possible, and where this is impossible by calling the matter to the attention of the local medical society and hearing what evidence they may be able to present."

We believe that as soon as the newspaper men of our section have it properly pointed out to them that men, women and children—and especially children—lose their lives unnecessarily because of misinformation carried

to them by the advertising and news pages of newspapers, these pages will be forever closed to traveling fakers who lay claim to power over disease. We hope the newspapers of our own cities will follow the lead of Godless Gotham, rather than that of Blameless Boston.

#### THE SEABOARD MEETING

This was not a meeting of the surgeons of any railroad. It was a happy gathering of good, whole-souled doctors of northeastern North Carolina and southeastern Virginia, and some of those so fortunate as to be numbered among their friends, at Washington-on-the-Tar, for the three days from the fourth to the sixth of this month.

For many years the editor had held in happy contemplation the wish to accept Dr. Dave Tayloe's hospitable invitation to visit this favored section and mingle with its genial people. Just twenty years elapsed between his first and second visits—a time far too short for the working of any material change in a stock which forsakes not the old ways.

To the benignant spell of the rare culture of those parts all responded. With light in his eyes, with a smile on his face, and with joy in his heart each proclaimed that it was good to be there.

#### STATE BOARD OF MEDICAL EXAMINERS OF SOUTH CAROLINA

Williamston, S. C.,

Dec. 3, 1928.

Dr. J. M. Northington,  
Charlotte, N. C.

Dear Doctor:

I hand you herewith my check for \$5.00 to cover dues Tri-State.

Let me thank you for the monthly visitations of the *Journal* crowded as it is with so many good things. I hope '29 will be a wonderful year for it and for you.

Sincerely yours,

FRANK LANDER.

## DEPARTMENTS

### HUMAN BEHAVIOR

JAMES K. HALL, M.D., *Editor*  
Richmond, Va.

#### AN OUTRAGE

For a week following November the twelfth I attended in Raleigh a special term of Wake County Superior Court ordered by Governor McLean for the trial of Doctor Albert Anderson. Judge W. A. Devin, of Oxford, had been designated by the Governor to preside over the trial. At the table occupied by the prosecution sat Solicitor Brassfield, the Assistant Attorney-General of the state, Walter Siler, and next to him Mrs. Kate Burr Johnson, Commissioner of Public Welfare, and next to her Doctor Crane, who occupies a chair in the Department of Psychology in the University of North Carolina.

Doctor Albert Anderson has been for about sixteen years superintendent of the State Hospital at Dix Hill, near Raleigh. Doctor Anderson is about sixty-nine years old. Prior to his residence in Raleigh he was connected with a private hospital in Wilson. For some time before his assumption of the superintendency of the State Hospital he was the director of a life insurance company. For many years he had been active in the medical life of the state, and in various medical organizations he has held positions of trust and of prominence. He is undoubtedly one of the best known medical men in North Carolina.

A special term of court for the trial of charges lodged against him was ordered first for October 29, but the nearness of election day caused the opening of the special term to be postponed to November 12.

Some time in October the grand jury of Wake County returned about fifteen true bills against Doctor Anderson. All of the counts had reference to his conduct as superintendent of the State Hospital. He was charged with stealing, with embezzlement, with allowing a woman patient to freeze to death in her room in the hospital ten years ago, with allowing a man patient to die suddenly in the dining room "without medical aid," with allowing another man to die who had cut his

throat, with fining employees of the hospital for violation of the rules of the hospital, with working employees of the hospital on his private suburban property, and with working men patients of the hospital on his own private property.

The jury was assembled, I was told, from outside the city of Raleigh and from Wake county. A former man patient in the State Hospital was one of the chief witnesses of the prosecution against Superintendent Anderson. He testified that he had been much befriended by Doctor Anderson, and for a number of years after his partial rehabilitation he was on the hospital's payroll. It is supposed, too, that he was one of the chief witnesses before the grand jury. Altogether many more than a hundred witnesses testified during the trial. At the conclusion of the testimony opposing counsel by agreement dropped eight of the fifteen counts,—most of the serious charges, I believe,—and then Doctor Anderson was found guilty on two counts. He was convicted for having worked some of the men patients in the State Hospital in his private hay field and for having used them in cutting undergrowth out of his own private woods. Thereupon Judge Devin fined him five hundred dollars and superimposed the cost of the special term of court. The latter item would probably amount to \$2,000 or \$3,000.

Horace, the gifted and subsidized friend of the regal Maecenas, has lain still in death these many centuries. But through the medium of his pen he made himself immortal. Some terrific subterranean rumbling aroused his apprehension. "The mountains were in labour," so he thought, but no earthquake came, and no volcanic eruption—only "a mouse was born."

No one who knows Doctor Anderson believes he is a bad man. No one who knows him believes that he steals, embezzles, falsifies, is cruel or unkind. He himself gave an account of his own life of service to the state. At the age of 53, without having had previous experience in psychiatry, he was placed by the Board of Directors in charge of the State Hospital at Raleigh. Within a few brief



years he transformed the institution into a modern, splendidly equipped, excellently administered institution. It ranks with the best state hospitals in North America. With his excellent intelligence, with a degree of mental and physical energy that is the marvel of all who know him he has brought about that transformation. He is the most admirable state hospital superintendent I know. He is at his day's work long before many state and federal officials see their offices. He does not tire. He has the enthusiasm, the zeal, and the optimism of the youngest doctor. But he does not make a good witness in his own behalf. Was it Elbert Hubbard who said of Whistler, the artist, that he was damned by his mouth, and glorified by his hands? Who makes a good witness for himself except the professional crook, who is always with his replies prompt, pat, and veracious? Doctor Anderson did testify that not infrequently he took a few men patients out to his suburban development with him as he went out for exercise for himself, and that as he worked some of them at times worked with him. Is it a crime for a state hospital superintendent to take a patient to drive with him, and to do some work with him—any kind of work anywhere? Work of the right sort in the out-of-doors with proper companionship constitutes the best therapy that can be ordered for those troubled in mind and cast down in spirit. Are the juries of North Carolina going to order the treatment for her insane who are under state care?

Doctor Anderson was charged with devoting considerate care and some of his time to the management of his own private affairs. What perfidy! I have lived scarcely more than a generation, yet I can remember when the occupant of the Gubernatorial White House spent some of his official time in aspiring to the United States Senate, and when the Chief Justice did likewise. And the people, all of them—grand juries, juries, judges, and the lesser but more numerous populace—did not regard such aspirations as criminal. Many officials—State and Federal—are out of the pauper class, and it is reasonable to suppose that some of them subtract some time from their devotion to the state in which at least to give thought to their own possessions. Who would look upon such behavior as criminal? Who would interpret such prudence as

an exhibition of official dereliction? But the superintendent of a state hospital must not be looked upon as a state official. He is a different sort of being—some kind of slave—on duty 24 hours out of the 24 hours. I have lived in a state hospital and I know something of the wear and tear of the life. It subjects one to abuse from within the walls and to the constant danger of villification and prosecution from without. All the state hospitals that I know are under-served medically and with nurses. How are such vacancies to be filled if grand juries are to stand ever ready to gather up tales from disgruntled discharged employees and psychopathic former patients? A psychopath removed Abraham Lincoln from the White House; another prevented William McKinley's return to it from Buffalo. Not long ago death removed from office the superintendent of a state hospital in Virginia. A surgeon had to be induced to apply for the vacancy from his operating room. The only other applicant for the position was a registered nurse.

The Governor appoints a Board of Directors to manage the affairs of a state hospital. Some of the ablest men in North Carolina are members of the directorate of the State Hospital at Raleigh. Many things go wrong in a state hospital. The few normal intelligences in such an institution are constantly being warred against by hundreds of disordered intellects—by those insane, and by those perturbed by alcohol and by drugs. Charges and criticisms should be carried first to the Board of Directors. That is what such a board is for. Were any of those charges that were carried to the grand jury and later to court first taken to the Board of Directors? If not, why not? Is the Commissioner of Public Welfare a prosecuting attorney? If not, why did she occupy a seat at the table of the prosecutors? If she heard criticism of Doctor Anderson, and if she had charges to make against him and his administration did she take them first to the Board of Directors? If not, why not? Why did the Governor call a special term of court? Finally, why did Doctor Crane, a member of the faculty of the University of North Carolina, sit at the table with the prosecutors? Is prosecuting a fellow-state official a new function assigned to a University professor? If so, who bestowed upon him such

designation?

I feel outraged by the verdict of the jury and amazed by the qualis and the quantum of the pronouncement from the bench.

#### THE NATIONAL MENTAL HYGIENE ASSOCIATION

The wise man makes profitable use of his experience, whether it be pleasant or disagreeable. The fool is either unable or unwilling to make such use of his experience. Perhaps that is a satisfactory way by which the wise can be differentiated from the foolish.

In the early years of this century a young man in New England had a severe attack of what is ordinarily called mental disease. (Can the mind be diseased?) After a long and painful experience with himself and with doctors, nurses, and hospitals he recovered. And after he had got well he wrote a book. And the name of the book is "A Mind That Found Itself"—and the name of the man is Clifford W. Beers. The volume appeared about 1907. In the book Mr. Beers tells all about the operations of his mind while it was in disorder. He apparently had no difficulty in remembering his delusions, and he had no hesitation in publishing them. And he told, too, how unintelligently and how badly and cruelly he was often treated. His own unhappy experiences aroused his interest in other mental patients. He sallied forth a crusader, and he has been crusading ever since. He brought about the organization of the National Association for Mental Hygiene. Mr. Beers was able to arouse the interest of the best people in the United States in his efforts to improve the treatment of the insane. The National Mental Hygiene Association was primarily interested in that problem. But the Association became interested also in the preservation of good mental health and in the prevention of mental disease. This great organization has spread all over the civilized world. In this country there are many state associations for mental hygiene.

At the Hotel Pennsylvania in New York on November 8th I attended the luncheon and the nineteenth annual meeting of the National Committee for Mental Hygiene. Dr. Bernard Sachs presided. Dr. C. E. A. Winslow, professor of public health in Yale University, emphasized the importance of paying intelligent attention to the state of health of the mind

and of the emotions. Dr. Frankwood E. Williams expressed the opinion that work in mental hygiene in the various nations of the world might tend to make possible international peace. He told of the plans for the first meeting of the International Congress of Mental Hygiene in Washington in 1930. The American Psychiatric Association will be in session in Washington at the same time. Dr. Arthur H. Ruggles told of the need of a foundation for mental hygiene, and Mr. Beers outlined the plans for the accomplishment of such a purpose.

Several hundred people—doctors, welfare workers, nurses, and lay people—men and women—attended the meeting. And that was an inspiring sight. Fifty years ago no one on the outside of the walls of an insane asylum had any interest in those suffering from mental disease. At that time, and long afterwards, mental patients fared badly. They were not looked upon as sick folks. An enormous change has taken place in the attitude of medical men and of lay people toward those who are sick in their minds.

Mr. Beers created the National Mental Hygiene Association, and that organization is doing splendid work. Its quarterly journal—*Mental Hygiene*—would alone justify its existence. All doctors and all other people who are interested in human conduct should read *Mental Hygiene*.

#### INTRAVITAM APPRECIATION

I am unable to reach a conclusion about the possibility of the existence of individual consciousness after death. I doubt it. Because of the probability that the individual can not know what his friends are thinking and saying about him after he is dead and buried I am heartily in favor of the approving and pleasing words being said to him while he is still alive and in good health. Do we do that sort of thing seldom because of our fear that the person might lapse and fall into conduct of such a reprehensible sort that we should have to retract our encomium? Perhaps, for most of us have so much respect for our opinions that we decline much to be confronted with reasons for changing them. However that may be, the friends and collaborators of Dr. William A. White, the superintendent of Saint Elizabeth's Hospital in Washington City, did not wait until some

post-mortem time to tell him what they think of him personally and of the magnificent work he has done and is still doing in psychiatry. They told him what they think of him right to his face at a dinner given in his honor at the Wardman Park Hotel on the evening of November 10. Folks came from all over the country—300 or 400 of them—men, women, doctors, lawyers, ministers, nurses, social workers, government officials, folks and yet more folks. It was a happy occasion.

The menu booklet carried on one page an excellent likeness of Dr. White and on another page a comprehensive airplane photograph of the great institution over which he has presided as superintendent for twenty-five years. Dr. Lewellys F. Barker was an excellent toastmaster. There is no more perfect morphological and mental exhibition of the ideal doctor than Dr. Barker. He accomplishes in dignified and finished fashion whatever he undertakes. Dr. Barker read letters, cablegrams and telegrams of congratulation and good wishes. Frank J. Hogan, Esq., a member of the Washington bar, spoke in high appreciation of the magnificent endowments of Dr. White, of his splendid humanitarian qualities, and of the services rendered by him to stricken mankind. Mr. Hogan has the Hibernian sense of humor, fluent speech, and the sort of brain that is said to have enabled him to keep the federal penitentiaries from becoming crowded with malefactors of great wealth. I can easily imagine the difficulty that a judge and jury would experience in an effort to resist his consummate appeals. And Dr. Smith Ely Jelliffe told of his and Dr. White's long and happy studies together in psychiatry and in neurology. They are the "Gold Dust Twins" in these domains of medicine. No other two men in North America have afforded such constant stimulation and guidance in these studies. White and Jelliffe; Jelliffe and White! The books they have written together, the journals they have edited jointly! Dr. Jelliffe looks physically capable of anything—from the moving of the Woolworth Building to an understanding of a disordered mind. But Dr. White is not herculean in body. Yet his friends know that he takes what rest he gets by bringing out a new volume on psychiatry. And he administers all the complex affairs of a mental hospital, with

a patient population of about 5,000, a medical staff of forty-odd, with something less than 1,000 nurses. And he teaches nervous and mental diseases in two or three medical schools, he is the psychiatric counsellor of the Federal government, he edits two or three medical journals, speaks to medical audiences all over the country, plays golf, performs upon the violin, and is a good dramatic critic! Many of us think him practically omniscient, and he has that rare faculty of being able with pen or tongue to make perfectly intelligible and interesting to any audience at any time and anywhere whatever he thinks about anything. President Roosevelt did many wise things but he never exhibited more prophetic wisdom than when he picked out an obscure assistant physician in a state hospital in New York State in 1903 and placed him at the head of Saint Elizabeth's Hospital in Washington City.

And at the conclusion of the dinner Dr. Barker presented to Dr. White, on behalf of the staff of Saint Elizabeth's, a handsome monographed watch.

In expressing his appreciation of the approval by his friends of his work at Saint Elizabeth's and in psychiatry in general Dr. White gave credit for any worthwhile accomplishments to the splendid staff that had assembled around him. It had never been his custom even to think of prodding men into work, but his one aim had been to attempt to provide a suitable medical environment in the hope that such a circumstance would call forth all that was best in the young men and young women on his staff. And he had not been disappointed. Among his former co-laborers at Saint Elizabeth's are found some of the leading psychiatrists of this country and of the old world. In his early days in the work, now more than a third of a century ago, mental patients were crowded in jails, drugged into stupor, and strapped in bed. Now at last they are treated as sick people. And that simple statement tells of a marvelous transformation in the mental attitude of laymen and doctors, and a change even as remarkable in the hospital facilities for the treatment of the mentally sick. At this moment Saint Elizabeth's has under way a general hospital of more than 200 beds in which every diagnostic device known to science will be installed, and in which every



approved therapeutic agency will be made available. And soon there will be a 1,500-bed addition to the institution. In consequence of these things Saint Elizabeth's is on the way to being one of the great mental hospitals of the world. And in conclusion Dr. White spoke of the ramifying and stimulating influence of increasing psychiatric knowledge in almost every domain of thought—in sociology, in history, in religion, and in education in general.

All of us came from the dinner more keenly conscious of the great progress that has been made in mental medicine in the past 25 years, and of the inspiring leadership in this movement by Dr. White.

## PEDIATRICS

For this issue, G. W. KUTSCHER, JR., M.D.  
Swannanoa, N. C.

### FOURTH DISEASE

*The Lancet* (London) of July 14, 1900, carried an account by Dr. Clement Duke of a new disease which he named "fourth disease." Nil Fitalow had published in 1896, in Russian, a report of several cases of this disease. The disease as a result is now known as "Duke's disease" or "Fitalow-Duke's disease." The American physicians have been slow to accept this disease as a clinical entity, but most authorities admit its possibility.

The differential diagnosis seems to lie between German measles, scarlet fever, and the disease itself. It is an exanthem which closely resembles rubella, in other signs and symptoms than the rash; but the rash simulates the abortive type of scarlet fever. The flash sign in scarlet fever—the quick disappearance of pressure marks of the fingers against the chest wall—is absent in fourth disease. The pressure marks in this disease are slow to return to the rash. In fourth disease the rash seldom involves the face and never the nose and regions about the lips. It seldom extends below the middle of the thighs or below the elbow region of the upper extremity. In type it is a small, thickly set eruption, pale red in color, and perceptibly raised above the surface of the skin. Other differentiating points from scarlet fever are absence of typical throat appearance—sharp line of demarcation of congestion at the mar-

gin of the soft palate,—absence of strawberry tongue, gradual onset, normal pulse rate and little or no elevation in temperature.

As the rash resembles scarlet fever, the signs and symptoms resemble German measles more than anything else. This disease does not give rise to the large cervical glands found in German measles, although these glands are slightly enlarged. The duration of the disease is short, as in German measles. There is no cough, conjunctivitis or coryza, nor are Koplik's spots found.

The prodromal symptoms absent or mild; there may be slight pain in the throat and loss of appetite. The eruption is usually the first sign, spreading over half the body in a few hours. This eruption lasts only a few days and leaves without desquamation, but at times there is a slight scaling. Any symptoms present leave with the rash. The tongue is usually coated and the pharynx congested and swollen. The pulse is seldom affected. The temperature may go as high as 104, but seldom is higher than 99.5. The disease is mildly contagious, having an incubation of 9 to 14 days as compared to 2 to 4 days in scarlet.

Fourth disease does not give protection against either scarlet fever or rubella; in fact, it frequently precedes or follows an attack of scarlet fever. There are no sequelae, and complications such as nephritis and otitis are extremely rare. There is no specific treatment.

The author is in no position to declare himself either in favor of or against the consideration of this disease as a clinical entity. He thinks that he has seen ten cases of this disease, four last spring and six this fall. The Schultz-Charlton reaction, although not 100 per cent accurate (tried on several of these cases) showed no rash extinction (negative). Furthermore, no other case developed in other children of a family where one child had developed the disease. No desquamation was detected in any of the ten cases. Scaling of the chest wall took place in two cases.

Some of these cases are innocently quarantined as scarlet fever. The fact is appreciated, also, that some forms of scarlet fever are so mild as to go undiagnosed until the period of desquamation.

## DENTISTRY

### DENTAL ANTRITIS

*For this issue, J. STANDING NORMAN, M.D.  
Hickory, N. C.*

I have coined the caption of this article because it is a condition which occurs independent of other forms of antrum infections. I shall attempt to give briefly the symptoms, subjective and objective, the pathology and probable treatment.

As the eye, ear, nose and throat specialist is more and more thrown with his dental associate in sinus diseases, it becomes the duty of both to co-operate in these infections.

The antrum is likened to a small squarish box, situated in the body of each maxillary bone, the floor of which is a partial roof of the mouth. On its outer and anterior lateral portion or edge are the alveolar processes for the teeth, the roots of which are found many times to project up into the antral floor. These projections may be thin bony processes or nothing more than thin muco-periosteal membrane. As the size of these antrums differ as to the size of the floor, so does the number of teeth roots which enter into and up through the antrum floor.

There may be no sign of pain on pressure over the anterior or frontal wall of the antrum, but there may be a slight amount of tenderness at the side of the roots of some of the teeth. Having the patient bite down firmly will sometimes disclose tenderness, which I have attributed to an infected alveolar process or root that may be feeding infection into the antrum. Transillumination may give a dark area at some part of the gum next to the palate. Of course other areas of tenderness will help also, namely, preantral pain and infraorbital pain. X-ray plates of these antrums usually give us a great deal of information, but not always so.

Sinclair Thompson says we will find a preponderance of polymorphonuclears and mononuclears in the washings of these antrums. I have also found foul smelling pus.

The teeth roots that usually project into the antrum are the first and second molars and bicuspid and in one recent case an impacted wisdom tooth.

The character of pain may be misleading and be referred to some other part of the

fifth nerve or some of its associations, as a form of otalgia. In a recent case referred by Drs. Campbell and Yount, of Hickory, the patient gave a history of such character of pain for eight or ten years. The pain was referred to the left ear. It was coincident with coryza attacks and menstrual disorders. The patient had been advised three times to have a mastoid operation done on that side. Incidentally, she had had a laparotomy, from which she obtained no relief.

An infection of the antrum was found and disease of several teeth suspected. She had all teeth removed and plate work done, as her teeth were very much infected. Patient now has no antral pain and has gained in health and weight.

This point I desire to emphasize: X-ray plates in these cases will be of considerable help in determining whether or not a root process has penetrated the antral floor, or whether at time of extraction the antral cavity may have been entered and perhaps infected.

The depth or thickness of the alveolar process is variable, which is due to the absorption of the spongy substance during the development of the antrum and to necrosis of the bone from infected teeth. When the x-ray shows the bony walls of the cell and antral floor thick and compact, there has been little absorption and the cavity is relatively small. With much absorption the size of the antral cavity increases and the thickness of the walls and floor decreases. The thicker the alveolar process, the greater the protection against inflammatory inroads into the antrum from alveolar contents.

When an x-ray plate shows a small antral cavity and thickened wall, you may feel reasonably certain that the antrum will not be entered through the alveolar process in extractions.

When a patient presents these symptoms I do a Douglas puncture, having taken an x-ray previously, and if infection is found, refer the patient to a dentist for his examination and disposal, after which he can be returned for final treatment of the diseased antrum.

At times an antrum may be treated by a rhinologist and he does not obtain as good results as desired, and again, the dentist re-

moves teeth, makes a plate, or does whatever dental work he judges necessary, and still the patient has pain. It is in such class of cases that the professions must work together.

Skillem and Coakley both state that carious teeth of the antrum cause pain when chewing. Other authorities agree. Again it must be borne in mind that pain sometimes may be due to the possibility of a new growth being connected to or overlying a tooth that has penetrated into the antrum, giving pressure pain.

Three cases are briefly presented:

Case No. 1.—Man, aged 46, gives history of antrum trouble for ten years. Examination showed infected antrum, high blood pressure, exceedingly nervous, emaciated. Usual signs of infection. Antrum washed out, dead teeth removed, blood pressure returned to normal. Gained twenty-five pounds. General condition good.

Case No. 2.—Discussed in the paper.

Case No. 3.—Man, 58 years of age, for eight years has shown the symptoms as noted on right side only. Has had infected teeth removed. X-ray showed only right antrum involved, which is now clearing up and patient is improving rapidly in general health.

I might add that the antrums involved were, in each case, on the sides of the infected teeth only, which establishes the fact that the teeth are probably the primary cause of infection.

## EYE, EAR, NOSE AND THROAT

*For this issue, C. N. PEELER, M.D.  
Charlotte, N. C.*

### HOARSENESS

This is a condition often seen by the general practitioner and occurring at all ages. The time of appearance in life offers the best key to classification, though not a fixed one.

In babyhood there are two common causes of hoarseness. First in importance comes acute laryngitis with its consequent respiratory embarrassment often severe enough to take the child's life unless relieved by intubation or tracheotomy. It is very difficult to tell by clinical symptoms alone whether such a laryngitis is diphtheritic or streptococcic. A direct laryngoscopic examination is usually necessary with direct smear and culture.

The other common cause of hoarseness in

early life is papilloma, usually multiple. They usually require frequent removal after the larynx has been put completely at rest by tracheotomy. Ultimate cure may be expected though it may take months.

The severe forms of the acute exanthemata of childhood may attack the larynx. This is a fact well to bear in mind.

Any case of hoarseness without other obvious explanation lasting over six weeks should excite suspicion of tuberculosis. This disease is not uncommon in adolescence, though it may occur at any stage of life. Another great cause of chronic hoarseness in the older individual is syphilis. This may occur in the larynx in either the secondary or tertiary stage. In differentiating, laryngeally, these two diseases, all evidence must be taken into consideration: clinical, x-ray, serological and biopsy. The field of treatment of laryngeal tuberculosis is too big for discussion here. Lues of course demands intensive systemic treatment.

Probably the most common type of hoarseness seen by the laryngologist in adult life is the so-called chronic laryngitis simplex. A better term is traumatic laryngitis because it is invariably due to prolonged use or abuse of the voice. Thus ministers, lecturers, school teachers are particularly prone to have this type of laryngitis. If long continued there may be changes in the larynx closely simulating lues and tuberculosis. Complete rest and appropriate local treatment is indicated in such cases.

Hoarseness in later life should arouse at once a suspicion of carcinoma. Occasionally this is seen in young adult life. Diagnosis can usually be made by laryngoscopic examination. However, to differentiate a lesion from lues and tuberculosis sometimes requires all the armamentarium at our command. The court of last appeal is biopsy. It should be remembered, too, that two of these conditions may coexist but this is really the laryngologist's problem.

Hysterical aphonia is frequently seen any time after puberty. Its cure is unique and is again the laryngologist's problem.

A few of the more uncommon causes are briefly mentioned. Vocal cord paralysis complicating thyroid enlargement has been largely done away with by early diagnosis and ap-



propriate surgical intervention. Violence of external origin, whether by bullet or blow, may involve the cords directly or indirectly via the recurrent laryngeal and produce a traumatic paralysis with its consequent hoarseness. Tracheotomy is usually required to prevent suffocation in case of bilateral cord paralysis. An intracranial lesion or bulbar palsy involving the tenth nerve will of course give hoarseness. An aneurysm or tumor pressing on the recurrent laryngeal is sometimes a factor and more often involves the left because of its lower position. In tired, nervously enervated patients a hoarseness is sometimes seen without obvious reason which for want of better phraseology is called nervomusculature relaxation.

---

## ORTHOPEDIC SURGERY

*For this issue, J. WARREN WHITE, M.D.  
Greenville, S. C.*

### POSTURAL BACKACHE

Too frequently faulty posture is considered as a separate entity, and a great deal of time and energy is directed toward its correction by exercises and braces of various types, depending on the enthusiasm of the one in charge of the case. The fact that a functional postural defect is the direct result of a lowered muscle tone which in turn follows some general systemic derangement is too infrequently appreciated. The usual symptoms resulting from postural defects which bring the patient for advice are pain in the small of the back, referred down the leg or not, foot fatigue, and various concomitants of a sluggish bowel. What I have to say here will refer particularly to the first symptom, low back pain.

Our bodies were designed for considerable amount of hard physical work, and unless we approach this requirement we lose that degree of muscle tone which is indispensable to the proper carriage of our weight. If organic physical defect exists as well, the general atonia will be naturally more pronounced and frequently back pain is the only real symptom that inconveniences the patient. We are for the most part living an unnatural sort of existence. Most of us appreciate the necessity for exercise, but few of us have sufficient opportunity or time for it, or at least think we have not. Activity that affords us pleasure such as golf, tennis, or hunt-

ing, is expensive both in time and money and usually cannot be indulged in as one would wish. The extensive use of the automobile almost eliminates the last necessary exercise, that of walking distances.

Just the taking of automobile rides in varying types of weather, where one sits in a more or less strained position, frequently for hours, with his mind occupied in getting to his destination as soon as possible, is, I believe, the source of considerable "back trouble." Frequent stops and changes in position would obviate this danger.

The relatively short distances that most of us walk during the course of a day's activity, is far below the minimum required to keep us fit. I think there will be little disagreement with the statement that the treatment of a fractured femur is easier than the efficient management of an individual with a bad functional postural defect. The latter requires weeks of co-operation on the part of the patient, while in the former, the part played by the patient is largely a passive role. Of course relief can be obtained by the use of various types of external supports but, except in the more extreme cases at the start, they should be avoided and placed in the same category as the indiscriminate prescribing of medicines which has formerly brought so much discredit on the profession. It requires no little ingenuity on the part of the physician to keep up the enthusiasm of the patient; I am, therefore, advocating the performing of some of the more household duties, such as caring for the fires in the winter and the grounds in the summer. If, after the acute symptoms of a back strain have subsided, something of this nature can be seriously prescribed as a prophylactic measure, a recurrence can usually be avoided, varying of course the amount of activity to what one thinks the patient can tolerate. The combination of exercise with some useful household chores will appeal to some individuals who could not be expected to carry on indefinitely with routine exercises. A wood-pile is an excellent accessory to any house.

The victim of a chronic back strain should first be given the opportunity of a thorough physical examination, preferably by a man who is doing general work, or by an internist. Not infrequently some incipient systemic condition will be discovered which is at the bottom of the trouble, the correction of which

will be all that is necessary to bring the patient back to normal. It must not be lost sight of that any mental disturbance that you might say "takes the joy out of life" may be the start of a lowered muscle tone, and consequently the beginning of a postural defect in an individual who otherwise would have escaped back symptoms. We ordinarily think of a successful business man as an upstanding sort of person who does not sag, and, conversely, that the individual who is a habitual failure unconsciously assumes the physical attitude that he possesses psychologically. It might be said that happiness is the cure for many backaches.

The osteopath and chiropractor are thriving on chronic back strain. We cannot deny, much as we would like to, but that these practitioners do something that is sufficient to bring the patient back for more, and often encourages him to advise his friends to try the same line of treatment. The so-called osteopathic lesion, i. e., the spinal subluxation, is of course a fallacy, and it is my opinion that the benefit derived by the patient from the treatment results from the manipulation of joints which in the posturally defective individual have become stiff and sore. Patients with a chronic back strain avoid exercises that would work the kinks out of the painful region. If this same exercise is given him passively by one whom he regards as a physician, and who shows some skill in such procedures, and especially if he is paying him good money for it, he, in a great many instances, derives sufficient benefit to make it, at least in his estimation, worth while.

It is suggested, therefore, for the patient with a pain in the back that he be given the benefit of a thorough physical examination by a competent physician with adequate laboratory facilities, who also should determine whether there exist worries of any nature, before he receives intensive local treatment. Frequently the use of adhesive strapping or other external supports is a necessity at first, but it should be eliminated as soon as possible; then, when the condition allows it, some sort of graduated exercise should be started. Later prescribe some more permanent type of exercise that will be more likely to be continued than the usual postural procedures. It may range from golf to having the patient take care of his own fires in the

winter or keep his lawn mowed in the summer. The more clinkers that have to be attended to and the more weeds that must be dug up the better. Instead of bracing our patients, either by permanent back bracing or foot plates, let's see that they get the required activity, making of course due allowance for the acuteness of the symptoms and the existence of organic defects.

## UROLOGY

*For this issue,* MILTON WEINBERG, M.D.  
Sumter, S. C.

### SOME FACTORS IN REDUCTION OF MORTALITY OF KIDNEY SURGERY

Walcott, in 1861, was perhaps the first to perform a nephrectomy. This was done by the transperitoneal route. The first lumbar nephrectomy was done by Simon in 1869. Records indicate that in 1633 a French surgeon did the first operation of nephrolithotomy.

The statistics of Gross, collected in 1885 on 450 kidney operations, showed a mortality ranging from 20 to 60 per cent. As late as 1912, an eminent general surgeon had a mortality of 12 per cent in 112 cases. Within the past fifteen years, progress has been most notable. The application of the 'phthalein test, introduced by Geraghty and Rowntree about 1910, and the use of thorium nitrate solution, suggested by Burns in 1915 for rendering the upper urinary tract opaque, and the chemical examinations of blood for products of nitrogen retention, have considerable influence in lowering the mortality rate in renal surgery. The advances that have been made in kidney surgery are no less brilliant than those in other fields and are far more so than in many.

At the present time, among those who employ modern urological methods, the mortality is about 3.8 per cent, as appears from statistics of about 200 urologists in 22,148 cases operated on by them. The severe type of infections which are treated surgically are responsible for nearly all of the surgical deaths. Eliminating this type of kidney lesion, the mortality rate would be less than 1 per cent. Caulk states, "This stands out in striking contrast to previous reports of mortality rates of the leading American institutions."

In 1919, there were 10,280 operations of various kinds performed in St. Mary's Hospital, Rochester, Minn., with a mortality rate of 1.7 per cent. Of these, 5,671 were abdominal operations with 2.8 per cent mortality. Comparing these statistics, it will be seen that the mortality rate in kidney surgery is only a little higher on the average than that of abdominal surgery.

The diagnosis of the type of renal disease must be made accurately before operation, whenever possible. It is very important to catheterize the opposite kidney and determine its function before attempting operation on the diseased organ. The microscope, cystoscope, chemical laboratory and the roentgen ray must be used. By the application of modern urologic methods, it is usually ascertained whether nephrectomy, nephrotomy, resection of the kidney, nephropexy, or pyelotomy should be done.

Frequently, when there is necessity for operation, the patient's general condition can be markedly benefited by proper preliminary treatment. Not infrequently, the patient may be transformed by such treatment from a poor surgical risk to a good one. For example, a patient who has renal stones with infection may have his general condition improved for operation by first employing lavage of the renal pelvis through the ureteral catheter. Some patients require post-operative treatment of cystoscopic procedures in order to get best results.

The average case that comes to operation for renal surgery has had the condition for four and one-half years. Such cases have usually been treated symptomatically and ineffectively with so-called urinary antiseptics. Buerger, Barney, and others reviewing a large number of cases in which they found obstructive lesions of the kidney and ureter have had abdominal operations without relief in about 25 to 30 per cent of the cases. Usually the appendix, gall-bladder, right ovary or tube was sacrificed. One writer reports that in a series of several thousand cases of those operated on for chronic appendicitis, 73 per cent showed no improvement. In many of these cases, the lesions were subsequently found to be in the upper urinary tract.

Delay in the proper handling of any lesions of the upper urinary tract usually increases the necessity for surgery. The necessity for

surgery of the kidney has been reduced to considerable extent by the use of the catheterizing cystoscope. Various lesions of the upper urinary tract such as stones, stricture and kink of the ureter, which frequently produce kidney changes, are often relieved by ureteral manipulations through the cystoscope, which if left alone would eventually require surgical operations in very many instances.

The reduction of the mortality rate in surgery of the kidney is due to the following considerations: 1. Accurate diagnosis of the type of kidney lesion; 2. accurate methods of determining whether or not operation should be done; 3. improved methods of applying pre-operative treatment; 4. good judgment in determining the type of operation after it is decided that it should be done, whether it be a nephrectomy, nephrotomy, resection, nephropexy, etc.; 5. careful examination of the patient as a whole; 6. proper post-operative treatment.

---

## INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., *Editor*  
Asheville

### ESSENTIAL HYPERTENSION

More and more it is being brought to the attention of physicians that the two greatest causes of death are malignant disease and cardio-vascular conditions. It is not surprising, therefore, that the literature teems with contributions on these subjects. It is with the latter one that we are concerned. No journal not devoted to a specialty can go to press without its circulatory article, and no section on medicine is complete until the quota of cardio-vascular-renal papers have been secured. The bulk of the literature is rehash and not informing. From time to time one comes across an article which, while not presenting anything particularly new, epitomizes our present-day knowledge so clearly, and disposes so definitely of many fads and false theories, that after having read it one feels that one has a better grasp on the subject than formerly.

Such an article is to be found in the *Journal of the A. M. A.* for September 8, 1928; is entitled "The Treatment of Essential Hypertension" and is from the pen of Dr. Herman O. Mosenthal, of New York. He feels that cases of essential hypertension are apt



to show a gradually increasing pressure as the years pass by. Every case with definitely increased tension should be kept under observation but does not necessarily need treatment. Treatment should not be instituted until a certain level of tension is reached and until secondary symptoms develop. Mosenthal has found from his experience that a pressure of 170/100 is the upper reading which does not entail secondary changes of note. It has frequently been stressed that *the diastolic pressure is more important than the systolic* as it represents the constant resistance which the heart is forced to overcome and the persistent strain which the arteries must withstand.

Mosenthal is so frank and open about the value of treatment that it is a pleasure to read the following lines: "Specific cures there are none. The treatment of so-called intestinal intoxication, the low protein diet, drugs of various sorts, a number of serums, the restriction of sodium chloride, the loss of weight in the obese, all have proved to be of no value in this regard. The liver extract of Major has not yielded constant results for the internist - - - the best available means at the present moment to reduce the blood-pressure in essential hypertension is to obtain nervous relaxation in the patient. This is glibly said but hard to accomplish, for it means untold effort on the physician's part and limitless co-operation by the patient."

The most important dietary restrictions have to do with the fats and carbohydrates because these foods are the main sources of obesity and Fisk has shown that there is an increase in tension in 78 per cent of persons 20 per cent or more overweight.

The greatest danger to the hypertensive patient being heart failure, and the heart having to do more work in the obese than in those of normal or substandard weight, it is obvious that obesity must be done away with insofar as possible. The idea that proteins are harmful has been done away with.

The termination of essential hypertension is usually either apoplexy or heart failure. There are no measures to ward off apoplexy other than those employed for keeping down the blood-pressure. In the treatment of heart failure the same measures are employed that would be used did the heart failure come from other causes, i. e., digitalis. Dr. Mos-

enthal has several instructive and easily comprehensible tables and all in all his article is clarifying and refreshing. Ask him for a reprint: 889 Lexington Avenue, New York.

#### THE HIGH COST OF MEDICAL CARE

The public as a whole is complaining today of the high cost of medical care for the man of moderate means, and the public is right to complain for in many instances the cost is prohibitive. The rich and the very poor can secure all the attention needed. The shoe pinches the man that makes from \$2,400 to \$3,600 annually, upon which he has to support a wife and children. Such a man does not want his wife or child to enter the public ward of a hospital: that injures his self-respect. On the other hand, if his wife or child is forced to remain for some weeks in the hospital, the cost of room, private nursing, diagnostic procedures, operating room fees, etc., to say nothing of the doctor's bill, total such a sum that a large debt is contracted which it may take months or even years to liquidate. Such a condition of things is not fair. The man of moderate means should be able to secure adequate hospital and medical care for his loved ones or for himself without being plunged into bankruptcy.

The matter is brought up not to offer any solution but to direct the attention of the profession to the activities of the Committee on the Cost of Medical Care, and to its five-year program. This committee organized a couple of years ago, and whose program was adopted in February of this year, is composed of forty-two members, twenty-three of whom hold the degree of M.D. All members of the committee are prominent men in their various fields of endeavor. The committee's five-year program has been made possible by the support of:

1. The Carnegie Corporation
2. The Milbank Memorial Fund
3. The Russell Sage Foundation
4. The Twentieth Century Fund

For this first year a minimum of \$60,000 is needed, of which \$45,000 has been provided by these four institutions. For the four following years the annual budget will probably exceed \$75,000. No forty-page pamphlet that the editor has received has been of more absorbing interest than the outline of this five-year program. Five years

has been considered the least time necessary to collect data sufficiently authoritative to permit of recommendations being made upon them as a basis, for the committee intends not alone to study the causes of the cost of medical care but also to propose remedies for conditions that should be remedied.

As an index of how the committee is approaching the matter, here are three sides of the problem which must be investigated:

1. The demand for medical services, and their supply and distribution.

2. The cost to the family of medical services and the return accruing to the physician and other agents furnishing such services.

3. An analysis of specially organized facilities for medical care now serving particular groups of the population.

Under these three main headings, seventeen separate and distinct studies are to be made. It is not the intention of the editor to enumerate them, but it is his intention to stress the interest that every physician should feel in the work of this committee whose labors will unquestionably be of benefit of the people as a whole and also to our profession, many of whose members are not a little uneasy at the rather upset condition of things at present.

Every physician should write to the Committee on the Cost of Medical Care, 910 Seventeenth Street N. W., Washington, D. C., and request not only the pamphlet outlining the five-year program, but also all the other pamphlets that will be published as the various studies are brought to a close. Thus and thus only, can the profession remain abreast of this great economic, humanitarian and sociological study and research.

## SURGERY

GEORGE H. BUNCH, M.D., *Editor*  
Columbia, S. C.

### ACUTE INTRA-ABDOMINAL TRAUMA

The general use of the high powered car for transportation has made accidents quite common. Admissions of the injured into the average hospital over the land will number several a day. The proper treatment of this class of patients requires training that can come only from considerable experience. Injuries are of all kinds and may be classified roughly into lacerated wounds particularly of

the face, fractures, dislocations, and injuries to the brain or cord, to the chest and to the abdomen.

In this editorial we shall consider briefly some of the problems of intra-abdominal trauma. Unfortunately, the x-ray is not of much help in the diagnosis of this type of lesion. The number of organs in the abdomen only serves to make symptoms more confusing. Without exploratory laparotomy accurate knowledge of what has really happened inside is often impossible. However, there are general principles that may guide us. The three great dangers of injury to the abdominal viscera are shock, hemorrhage and peritonitis.

Shock is present after every severe injury. It is characterized by pallor, weak pulse of small volume, nausea and vomiting, subnormal temperature, cold clammy sweat and marked fall in blood pressure; without loss of consciousness until just before death, but with listlessness and apathy throughout. Leucocytosis may reach 20,000. Cannon has shown there is a lessened blood volume in shock, due to capillary stasis. There is absorption of serum from the blood by the tissues causing the capillary blood to become more concentrated. He made counts in 27 cases of severe traumatic shock, 11 of which had a red blood cell count of 6 million, or higher, and 8 cases had more than 7 million red corpuscles. Cell counts of venous blood made at the same time showed in every case a reduction of about 2 million red cells. This seemingly proves the theory wrong that low blood pressure in traumatic shock is due to loss of venous tone and to the bleeding of the patient into his own relaxed veins.

In the operating room shock should be prevented. Treatment after shock has developed is not always satisfactory. Heat is most essential. The average trained nurse seems never to learn the importance of keeping the injured warm. It is no rare sight to see a patient after injury or prolonged operation, bathed in clammy sweat, cold up to the knees and up to the elbows, imperfectly covered by a thin cotton sheet, and yet being fanned and given ice water by the nurse. Even physicians do not realize the importance of heat in the prevention and in the treatment of shock. If the patient is not

nauseated hot drinks are helpful, otherwise fluid may be given by bowel, under the skin or into the vein. Morphine is a heart stimulant and should be given to insure rest.

The second great danger from intra-abdominal trauma is internal hemorrhage. If one of the great vessels is penetrated or torn the patient may die in a few moments from it. The liver, the spleen and the kidneys are large vascular organs liable to traumatic injury. The symptoms of severe hemorrhage are thirst, pallor with ashy lips and white conjunctivae, cold wet skin, weak rapid pulse, low blood pressure, air hunger, nausea, dilated pupils and death. There is early leucocytosis. In sudden severe hemorrhage hemoglobin does not fall. Reduction comes only after the blood remaining in the circulation has been diluted from absorption of fluid from the tissues. In shock fluid passes from the vessels to the tissues; in hemorrhage the course is reversed and fluid passes from the tissues to the blood. Clinically it is not always possible to tell hemorrhage from shock. Often the differentiation does not have to be made but sometimes it is most important. Hemorrhage is a common cause of shock and a patient cannot react from shock while inwardly bleeding. If necropsy were done as a routine on patients dying of shock we are sure that both surgeons and medical men would be surprised at the percentage that would be found to have really died of hemorrhage. The revelation would be embarrassing, but instructive.

After stopping the bleeding the treatment of hemorrhage is fluid, heat and rest, just as of shock. The blood is an oxygen carrier and the patient should have fresh air. Hemorrhage kills by causing anemia of the brain. The foot of the bed should be elevated. Whole blood is a specific for hemorrhage and every hospital should have a list of donors available for transfusion. To see a pulseless gasping patient transformed in a few minutes to animation and to life is a modern miracle.

The third great danger of intra-abdominal injury is of infection from the rupture of a hollow viscus and peritoneal contamination from its contents. Infection becomes evident only after some hours. Vomiting, fever, leucocytosis with rising pulse rate and with increasing tenderness, rigidity and distention indicate beginning peritonitis. The injured

patient should be seen often so that slight changes in his condition may be noted and exploratory laparotomy done early. In case of reasonable doubt, by all means explore the abdomen before the golden opportunity for cure by operation has passed forever.

## OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*  
Danville, Va.

### ATTENTION TO BABY DURING AND IMMEDIATELY FOLLOWING DELIVERY

A study of literature through the period of the last ten years shows that stillbirths remain high in the United States; also that many babies die within a few hours after delivery. There must be some real reason for this. A large number of these babies are in first class condition at the beginning of the second stage of labor; also the mothers of these babies are in good condition. It behooves the profession to go back and study the principles we have been taught about the mechanism of the second stage of labor and the way we manage this period of labor with the results that face us. Then the question is how can we get at the causes which produce a high percentage of stillbirths and infant mortality soon after birth?

Are we justified in continuing our conservatism in these difficult cases where the second stage is extremely prolonged, with extreme exhaustion of the mother and great danger of death to the baby. The physician after all of his hard and careful work has to report a stillbirth or has to sign a death certificate soon after baby is born, giving this cause or that for the death of the infant. We are modernizing every other field, apparently, in medicine and surgery; can we not modernize this important field?

We should become more expert in accurately estimating the size of the birth canal of the patient and of the baby. If there are marked differences in the size of baby and birth canal, we are forced to eliminate the prolonged dangerous second stage of labor and use some modern method which will insure safety to mother and the baby. Many of us were taught to give nature a chance and allow the mother to go through the experience of a prolonged second stage, then if the baby cannot be delivered to resort to some one of the operative methods of delivery.



ery. When we have resorted to one or the other of these methods we find that at the end of our toil we have a dead baby and the mother has a condition which produces morbidity. There may be conditions which justify this procedure, but in the minds of some this is questioned.

If by taking advanced steps we can cut down the number of stillbirths and preserve the vital strength of mothers, we can well afford, if necessary, to desert any teachings of the past and adopt any method which will make us more useful and efficient in one of the greatest, if not the greatest, fields of human endeavor, that of aiding in the reproduction of our kind without injury to mothers. By taking advanced steps we may so grow in this field until our methods now used will be obsolete in less than a generation.

There is nothing more satisfying to the physician than to have his patient come to the hour of labor in a perfect physical condition, to have the birth canal which is plenty large for the passage of baby, and to have the baby presenting properly so that it can come into the world with just as little assistance from him as possible, nature doing most of the work. We are finding more and more patients who do not have perfectly normal birth canals, whose nervous systems are so sensitive to pain that they are not willing to go through the period of labor without help.

The birth canal may be unusually small, the pelvis may be abnormal, the baby may develop to the point of being too large for the birth canal, but by studying the patient and keeping her physical condition as nearly perfect as possible, she can be brought to the hour of labor safely. When this hour arrives, instead of putting her through the test of labor, she can be delivered under strictly aseptic condition by cesarean section and given a live child, herself being brought through the period of labor and puerperium without injury to the pelvic organs or birth canal. As we develop our technique in this line of work we will find in every community where there is anything like a modern hospital one or more physicians who will be well equipped and qualified to do the cesarean section properly and promptly in ninety-nine cases out of every hundred, if not one hundred cases, saving both mother and baby. No doubt we shall find after more study of the

cesarean sections in the past, that the deaths of mothers and babies were due not to cesarean section in itself, but due to conservatism of waiting and waiting and waiting until the baby had been literally squeezed to death by the prolonged uterine contractions and the mother almost completely exhausted, then the cesarean section was decided upon and in her weakened condition, the baby already dead, she was exposed to the operation and after the operation she died, and everybody concluded, as usual, that death was due to cesarean section. Cesarean section is one of the finest operations ever devised for the expectant mother. It has its place and it will live in the field of obstetrics if properly used and will save innumerable lives, both young and adult.

There are other types of difficult labor which should be handled in the finest manner possible. Skill, judgment and experience should be brought into play to direct the activities of those who are managing the second stage of labor. There are certain conditions which arise that justify a complete elimination of the pains of the second stage of labor. Some of these conditions are as follows: occiput-posterior, prolapsed cord, slight marginalis placenta praevia, transverse presentation, prolapsed hand, breech, foot presentation, chin presentation, face presentation, occiput right and posterior. When these conditions are met and the birth canal is normal and the baby is not too large for the birth canal version can be done under strict aseptic conditions. The patient must be anesthetized to complete relaxation, the vagina ironed out slowly and carefully. The obstetrician wearing elbow gloves, then gently, carefully and slowly introduces a hand into the uterus, gets hold of the feet of the baby and carefully and slowly brings the feet out of vagina, using no pressure on the uterus. Then he can proceed slowly to deliver the trunk, shoulders and head of baby. In doing this delivery, if one is careful, he will do practically no injury to the cervix or the vagina. It is necessary to emphasize gentleness and care in handling the baby. At times it will be necessary to resuscitate the baby. No doubt we shall find, as our experience grows, that the use of hot and cold water, throwing the baby about in the air, and spanking the baby roughly, will become obsolete. We will find that if the

baby is placed on its back somewhat to the right side, alpha-lobelin either injected into the cord before it is cut or put into the muscles of the baby; and then a small catheter inserted into the trachea and air blown gently into the lungs, with gentle pressure over the thoracic region, breathing will soon be established unless there has been severe injury to the central nervous system.

In those cases in which forceps are indicated, applying them to the head right, not using too much force in the extraction, and not pulling too long on the forceps, watching the heart sounds of baby, it can be delivered without injury to it and very little injury to the birth canal, *provided the birth canal was thoroughly ironed out before the forceps were applied and the patient completely anesthetized.*

Cleanliness, gentleness, skill, coolness of head and warmth of heart, should be exercised in any method used in helping to bring the baby into the world. If these principles are observed and carried out faithfully, stillbirths will be greatly reduced, birth injuries cut to the minimum, morbidity of mothers brought to almost nil and thousands of young women will be turned back to their homes, husbands and families in perfect physical condition and also we will probably cut to the minimum many cases of epilepsy which we now have. It may be that we shall learn that many cases of epilepsy were caused by birth injuries, either in the uterus, in the birth canal, or by the use of some method of delivery which caused injury to the central nervous system. This idea may bring many of the medical profession to the point of seeing to it that not 66 2-3 per cent of the women of the country are delivered by doctors, but 100 per cent, and that all doctors who are delivering babies will be so equipped in this art that women will no longer fear pregnancy, labor and the caring for children. I think we are justified in saying that the field is white unto the harvest and the laborers are few who are proficient in this field, who are willing to open their minds and dive deeply into a study of pregnancy, labor and puerperium and a study of the babies who are delivered into the world daily. Let us hope that we shall learn about handling these little folk at all times properly, carefully and give them the birthright to which they are en-

titled, normal bodies and brains.

## GYNECOLOGY

CHAS. R. ROBINS, M.D., *Editor*, Richmond  
BACKACHE AND BEARING-DOWN FEELING

Diagnosis must always remain the keynote to treatment. This is particularly true in gynecology where of any one hundred consecutive examinations of women will disclose a surprisingly high percentage of pelvic pathology. It may be that in many of these cases the patient has experienced no subjective symptoms whatever or of such minor character as not to suggest to her the necessity of medical consultation. Such figures force upon us the conclusion that often what we term pelvic pathology may cause very few subjective symptoms, and when they do occur they are due to certain complications or secondary changes. Therefore a mere routine examination of a complaining woman without a careful analysis of her history and symptoms and taking into consideration her whole physical and mental being may lead to gross oversight of what should be obvious conditions and leave the operated woman as bad or worse off than when she consulted the surgeon, or, at any rate, imperfectly cured.

The symptoms enumerated above may be classed as the most common symptom in gynecology, and accompany displacements, lacerations, prolapse, inflammation, tumors—in fact, almost all gynecological pathology. We find, however, a number of women who complain of these two symptoms who have a normal pelvis.

These symptoms usually give a history of having followed confinement or developed in the course of several pregnancies. This would suggest, of course, some pelvic pathology incident to pregnancy. However, in the course of pregnancy there normally occurs a relaxation of the sacro-iliac joints and distention of the abdominal muscles. It happens not infrequently that there is not the normal take-up after delivery and we have a persistence of these conditions. As a result is developed pain in the back, and weakness and weight in the pelvis aggravated by standing and exercise. These symptoms often accompany retrodisplacement, subinvolution, prolapse and lacerations of the perineum. The cases in which back strain and abdominal ptosis are active causes in the symptoms can be

determined by a simple expedient. The patient is made to stand in the position in which the symptoms are most marked. The physician then places one hand over the sacrum and the other over the suprapubic region, then the hands are brought firmly toward each other. If this support gives the patient relief it is an indication that proper support of the abdomen and sacro-iliac joints is what is needed and that the real cause of the symptoms is the very relaxed sacro-iliac joints and abdominal muscles. In order to confirm this opinion it is well to apply an adhesive binder. This is well done with a strip about 6 or 7 inches wide and from 34 to 39 inches long according to the size of the patient. She is placed on her back on a table; then, while she elevates her hips, the plaster is passed under her so that the centre will be at the spine and it will rest over the upper part of the sacrum and lower lumbar region. She then allows herself to lie flat and the ends of the adhesive are passed around the body, conforming to the shape and overlapping below the navel and on margin of symphysis. It should be applied reasonably tight, and should be rubbed until firmly adherent to the skin. The patient is requested to report in a week and, if she still experiences comfort, a suitable corset made to measure and designed for this purpose should be ordered. Other pathology should of course be attended to, but, unless this support is given when needed, no operation will give satisfactory results.

#### ENDOMETRIAL ADENOMATA IN ABDOMINAL SCAR

For this issue, ROBT. E. SEIBELS, M.D., Columbia Gynecologists have been made familiar with adenomata of the endometrial type through the publication by Sampson of many cases which have been most extensively studied and examined. The most common site for them is in the ovary and are often spoken of as "perforating chocolate cysts of the ovary." There are various theories as to just how they become implanted or whether they represent an unusual metaplasia of the already existing endothelium. The point of clinical significance is that these tumors may occur anywhere in the abdomen from the level of the umbilicus down to the lowest extension of the peritoneum (having been found in the sac of an inguinal hernia). The

second clinical fact is that the epithelium of which these growths are made up undergoes the same cycle of changes as that lining the uterus, and at the menstrual period these tumors enlarge, become hemorrhagic and either burst, as in the case of the ovary, or when they are unable to burst their envelope they give rise to more or less acute pain.

In many cases of intra-abdominal endometrioma the uterus has not been opened and Sampson believes that they represent implantation of endometrial cells which have passed out through the tubes during the menstrual period and have grown on the peritoneum of some pelvic organ. Cases have been reported where the uterus was opened or squeezed by a tenaculum and of implantation of these cells on the abdominal scar. In the article under review, ventrofixation furnishes the highest number of cases of endometrial tissue in the abdominal scar, opening of the pregnant uterus furnishes the second largest number and "pelvic operations" (salpingectomy, oophorectomy) are third on the list. In one case the editor has seen, the tumor was close enough to the skin to show plainly the menstrual blood which had collected in it as a dark spot somewhat resembling a bruise. This patient had had removal of an ovarian cyst, freeing of adhesions and round ligaments shortened. She had been relieved of her dysmenorrhea but when the tumor had become of the size of a hickorynut she had a recurrence of the pain, this time located in the scar. Local excision with complete removal of a little of the surrounding tissue without cutting into the tumor is sufficient to effect a cure. These cases suggest several considerations in prophylaxis. First, that since normal endometrium may easily become implanted uterine cancer cells may be similarly squeezed out of the uterus if grasped with a tenaculum, and that egress from such a uterus should be blocked by closure of the tubes before the uterus is handled at all roughly. Second, that the use of a tenaculum which squeezes the uterus should be avoided in all conservative pelvic operations. Third, care should be exercised in handling hemorrhagic ovarian cysts to prevent their being perforated and cells dropped in the pelvis.

Sampson, J. A.: *Surg. Gynec. and Obst.*, 1924, xxxviii, 287.

German, W. J.: *Surg. Gynec. and Obst.*, 1928, xlvii, 710.



## NEUROLOGY

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*  
Charleston, S. C.

### SENSORY TESTS

Fortunately it is not often necessary for the practitioner to make tests of sensory discrimination. I use the word "fortunately" because, while there is nothing difficult about the procedure, so many subjective factors are present that the results are often unreliable, even confusing. I have frequently noticed, in reading the charts written by internes and clinical clerks that while the tests covering the motor system are generally correctly carried out, gross errors often occur in recording sensory phenomena. One reason for this lack of precision is the unsystematic manner of examination. When one applies a stimulus to the skin, he must rely upon the patient for the response. This, of course, implies that the person tested must be sufficiently intelligent to co-operate; also that he or she is perfectly safe and conscious. Again, it is necessary for the skin stimuli to be applied alone. That is, the person must not see them applied and thereby be confused by the combined stimuli coming in through the various avenues. As a simple example of this, if you stick a patient with a pin while he watches the performance and at the same time say "Do you feel that?", you have presented several stimuli and created a complicated situation. Sensory examinations must be conducted in a systematized manner, which will allow stimuli to be applied singly and without distraction.

As a simple routine test, the following procedure may be carried out. Let us suppose that our patient has a history suggestive of a transverse myelitis, and our motor tests have apparently borne out that provisional diagnosis. After baring the body, the patient is told that the skin will be touched with a wisp of cotton, which is shown and a demonstration made on the cheek. The following instructions are given: "When you feel this touch your skin, anywhere, say 'Now,' and when I say 'Where?,' tell me just where you feel the touch." Then the person is blindfolded and the examination begun. The wisp of cotton is gently drawn across the skin and a slight pause made. If the patient

says nothing, a new place is tried, this time an area known to be normal. This will make certain whether the patient understands what is expected of him and is co-operating. One then goes over the body alternating normal and suspected zones. It is needless to say that the alternation should not be regular.

As a result of this exploration of the body surface a chart can be made which will show light touch or epicritic sensibility. Next, with the same precautions as to blindfolding, and after carefully explaining what one intends to do, the body is gone over with a pin point and the blunt end of a pencil used alternately. During this test the person must say "Now," and then tell whether the pin or the pencil had been used and where. The next procedure is to use two test tubes, one containing water at about 70 degrees and the other water at 105 degrees F. When this is finished one is informed as to pain, pressure and temperature. A vibrating fork touched to the bony eminences will test as to the vibratory sense, conveyed by the posterior columns, and often lost in tabes. Finally the legs and arms are placed in various positions and the blindfolded patient told to describe how they lie. There are, of course, other tests, referable to the sensory system, but, for a rough clinical test, the above procedure suffices. If systematically carried out it will give a correct picture of the sensory phenomena present and will serve to obviate trickery in malingering and hysterical conditions.

## PUBLIC HEALTH

For this issue, RICHARD MESSER  
Chief Engineer, Virginia State Department of Health  
Richmond

### MILK

Milk can be made safe for our children under any circumstances. Unfortunately this most essential of all foods is the best medium for dissemination of several infectious diseases. For centuries milk-borne epidemics have been annual occurrences. Improved dairying and better sanitation have greatly reduced the incidence of these epidemics.

Bone and joint tuberculosis, typhoid, dysentery, diphtheria, scarlet fever and septic sore throat are frequently carried by milk. Now we find a new disease to add to the milk problem. Undulant fever, sometimes called

Malta fever, thought to be confined to the Mediterranean shores and carried only by goat's milk, is now known to be similar, if not identical with *Abortus* fever of cattle. The organism, originally described as *Bacillus melitensis*, is at present recognized as *Brucella abortus* and is divided into two strains, —namely, *Brucella abortus* (var. *melitensis*), and *Brucella abortus* (var. *abortus*.) It is primarily a disease of cows, but can be transmitted to human beings by milk as well as through contact with infected animals.

Pasteurization destroys the organisms of these diseases. However, only the larger towns and cities pasteurize their milk. Where pasteurization is not practiced, some degree of safety can be secured by destruction of tuberculin reactors in the dairy herds, by anti-typhoid inoculation, and by diphtheria immunization. A city health department can supervise dairying and can insist upon central pasteurization plants. All well and good for communities, but how about the bulk of our population living in small towns and on farms, —units too small to support expensive milk-handling apparatus? What is the best advice we can give them?

There is at least one simple answer. Boil the milk. Pour the day's household supply into a sauce-pan, bring it to a boil, allow it to boil one minute, and then set it in a cool place. Boiling gives all of the protection accomplished in the best of city pasteurization plants and is easily accomplished. Of course the vitamins are killed; but these can so easily be supplied from other sources. No matter how small the infant or child, the disadvantages of boiling the milk can all be overcome by adding to the diet two to six ounces of orange juice and a small quantity of cod liver oil.

It is our duty to inform our patients of the reasons for securing a clean milk supply. When it is not possible to obtain pasteurized milk we can recommend boiling of the milk.

#### COUNCIL ACCEPTS OPTOCHIN

In compliance with the request of the Council on Pharmacy and Chemistry the name "Numoquin" has been changed to "Optochin."

Optochin is used not only in the treatment of pneumonia but also in such conditions as pneumococcal meningitis and pneumococcal serpinguous ulcers. In the treatment of pneumonia it is administered by mouth.

The theory upon which the treatment of pneumonia with Optochin Base is founded has evolved

from the results obtained by a large number of investigators, and is outlined as follows:

The maximum bactericidal power of the remedy must be maintained continuously for a definite period —1 to 3 days—employing the minimum quantity of the remedy necessary for the purpose. It was found in practice that, provided Optochin Base is used, and given in doses of 4 grains every 5 hours, day and night, and further, provided the treatment is begun within 24 hours, or at least not later than the second day after the onset of the disease, the results are all that could be wished. The fever abates rapidly, the course of the disease is shortened and rendered milder, and the patients experience a sensation of euphoria, while the appetite and general condition improve.

The base is used because, being practically insoluble in water, it is but slowly taken up into the blood circulation. With every dose of Optochin Base about 5 ounces of milk are given. The milk prevents the too rapid formation of the more soluble Optochin Hydrochloride by the action of the hydrochloric acid secreted and thus assists in maintaining a uniform optimum concentration of the remedy in the blood. No other food or drink is given during the 3 days' treatment.

#### EXPLAINING THE INTEREST

A clergyman had occasion to preach to the inmates of an insane hospital. During the sermon he noticed one of the patients listening most intently; his eyes riveted upon the speaker's face, and body bent forward. His interest was most flattering. After the service, the preacher noticed that the man spoke to the superintendent, so as soon as possible, he made this inquiry: "Didn't that man speak to you about my sermon?"

"Yes," was the reply.

"Would you mind telling me what he said?"

The superintendent tried to evade, but the preacher insisted.

"Well," he said at last, "the man said, 'Just think, he's out and I'm in.'"

BUT HE DOESN'T ADVERTISE—OH, NO!

A physician sits in his office chair.

And there broods on his face a look of care,

While he groans and walls and tears at his hair.

"Alas! and alas! and alas!" he cries;

"Surely fame and fortune would both arise

If O'd Ethics would let me advertise."

At last a thought comes into his brain,

Says he, "I must try that old racket again,

It worked O. K. once, and I'll work it again."

He wrote half a page on "The Evils of Pork,"

And the case of a man who swallowed a cork,

And a spoon and a knife, but got stuck on a fork.

Told how he cured an imprudent fellow

Who swallowed an entire gingham umbrella,

And brought it intact from the patient's patella.

Several newspapers extended their thanks;

He opened accounts at various banks;

He'd sidestepped Ethics and caught all the cranks.

—Chemist and Druggist.

Doctor: "I tell you, you must give up whisky, Jock. If you don't, in about ten years from now you'll be paying for it."

Jock: "Mon! Where do ye get yer whisky that they'll wait that long for the money?" *Medical Review of Reviews*, Calcutta.

## PERIODIC EXAMINATIONS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*  
High Point, N. C.

### DERMATOLOGIC CONDITIONS FOUND IN 271 HEALTH EXAMINATIONS

About one-sixth of the patients examined by the Health Maintenance Bureau of the State Board of Health so far have had abnormal conditions of the skin noted. Fifty-one defects were noted, occasionally more than one skin defect in one person. The individual conditions noted were as follows:

	Cases
Acne rosacea .....	1
Acne vulgaris, extensive (minor degrees not included) .....	4
Boils .....	2
Chloasma .....	1
Eczema, chronic .....	2
Eczematoid ringworm of feet .....	7
Fibromata of skin and subcutaneous tissues .....	8
Hemangiomata, multiple .....	2
Lichen planus .....	1
Lupus erythematosus .....	1
Moles and nevi, large (small and insignificant ones not included) .....	8
Procain dermatitis .....	1
Radium burn of long standing .....	1
Rhus dermatitis .....	1
Ringworm of hand .....	1
Scabies .....	1
Sunburn .....	1
Sycosis vulgaris .....	1
Tinea versicolor, extensive (minor grades not included) .....	5
Tuberculosis cutis .....	1

Wen of scalp ..... 1

Two conditions in this list call for special comment. We believe that eczematoid ringworm of the feet is an exceedingly frequent condition, and that these figures totally fail to give a true idea of the real incidence of the disease in North Carolina. The explanation of this is that persons in the piedmont section were examined largely in the winter and spring, when the disease is quiescent. In summer, when it is an affection of a large percentage of the people in the piedmont section, our work was largely in the mountains, where eczematoid ringworm is comparatively rare.

The incidence of scabies is small, but this is readily explained by the fact that it is a disease rather infrequently acquired by intelligent persons, and almost never tolerated by them for any considerable time, immediate treatment being usually instituted to eradicate the disease. The more intelligent persons are the ones who naturally avail themselves of health examinations, as a rule.

The variety of conditions found in so small a number of persons examined, does, however, give a good deal of food for thought, and is another example of the importance of periodic health examinations.

## REVIEW OF RECENT BOOKS

### THE NEWER KNOWLEDGE OF NUTRITION:

The Use of Foods for the Preservation of Vitality and Health, by *E. V. McCollum, Ph.D., Sc.D.*, Professor of Chemical Hygiene in the School of Hygiene and Public Health, of the Johns Hopkins University, Baltimore, and *Nina Simmonds, Sc.D.* (Hygiene), Associate in Chemical Hygiene in the School of Hygiene and Public Health of the Johns Hopkins University, Baltimore. Illustrated. Third edition, entirely rewritten. The MacMillan Company, New York, 1927. \$4.25.

It is impressive to realize that so many results of importance have appeared in the past three years as to necessitate a new edition of this book. The chapter on rickets has been materially added to.

Perhaps of greatest interest is the discussion of the dietary habits of man all over the

world, with reasons for satisfactory or unsatisfactory results. There is a chapter on the relation of iodine deficiency to goiter. It is made plain that much more is being said about vitamins than is known.

McCollum has done, perhaps, more than any other man to advance our knowledge in this field; to his own discoveries he has added those of other investigators of the first rank; the result is a remarkably readable and informative book on an extremely important subject.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, by *E. Poulsson*, Professor of Pharmacology in the University of Christiania. English edition edited by *W. E. Dixon, M.A., M.D., F.R.S.*, Reader in Pharmacology and Assessor to the Regius Professor of Physic, Cambridge. Ameri-



can edition. Williams & Wilkins Company, Baltimore.

This is a very individualistic treatment of drugs and their actions which is a standard in Norway, Sweden, Denmark and Germany. The views of the author are given and the translator adds no dissenting opinions, as he says "the reader requires the views of the author, not the comments of an outside critic."

The arrangement is quite unusual as may be readily seen from the five major divisions: I.—Organic Remedies Acting After Absorption, II.—Organic Substances Acting Locally, III.—Salts of Light Metals, Alkalies, Acids, etc., IV.—The Heavy Metals, V.—Ferments and Food-Subs, VI.—Antitoxins and Bacterial Products.

Enough is given of the pharmacology of each agent considered to fix in mind the principles governing its action; then the application to clinical therapeutics is elaborated.

The work will prove a faithful guide to those who seek information as to what remedial agents can be depended on to do.

**DISEASES OF THE SKIN**, by *James H. Sequeira, M.D. Lond., F.R.C.P. Lond., F.R.C.S. Eng.*, Physician to the Skin Department and Lecturer on Dermatology and Syphilology at the London Hospital; in charge of Queen Alexandra's Department for Light Treatment; Consulting Dermatologist to the Radium Institute; President of the Dermatological Section of the Royal Society of Medicine; Secretary of the British Association of Dermatology and Syphilology; Corresponding Member of the Societe Francaise de Dermatologie et de Syphiligraphie and Dansk Dermatologisk Selskab; late Hon. Consultant for Diseases of the Skin to Military Hospitals in London, and Physician to the North Eastern (now Queen's) Hospital for Children. Fourth Edition. 56 Plates in color and 309 text-figures. The McMillan Company, New York, 1927. \$10.00.

In so far as possible the classification is etiological, which is a great help toward clarification of the confusing dermatological nomenclature. Bearing in mind the needs of the practitioner diagnosis and treatment are given special and plain emphasis. Latest information is given with little of debate. What is known is clearly stated as fact; opinions of different degree are appropriately indicated.

The illustrations are carefully chosen and painstakingly reproduced, those in colors be-

ing specially fine; still there is a photograph in black and white which shows in a manner so striking as to be almost startling the interstitial keratitis of congenital syphilis.

As a guide to proper diagnosis and treatment of skin diseases and skin manifestations, Sequeira can be heartily recommended.

**A TEXT-BOOK OF MEDICINE**, by 130 American Authors. Edited by *Russell L. Cecil, M.D.*, Assistant Professor of Clinical Medicine, Cornell University Medical School, New York. Octavo of 1500 pages, illustrated. Philadelphia and London, W. B. Saunders Company, 1927. Cloth, \$9.00 Net.

Taking note of the tendency toward close specialization, in some cases to the study of a single disease, necessitated by the greatly increased complexities in diagnosis and treatment, Dr. Cecil has interested 130 doctors distinguished for knowledge along various lines, to the end that each disease, or group of diseases, is presented by one expert in that subject.

The various authors distinguish between what is known, and what is not known about any given disease, and they state the known with the greatest clearness. As an illustration: "No salt of quinine is more effective than the sulphate. Quinine is more effective when given by mouth than when administered intravenously or intramuscularly. When given intravenously, however, its effect begins at once, whereas, after oral administration it does not act for one or two hours. Consequently in urgent cases of pernicious malaria one or more intravenous doses may save life. The bismurate diluted with at least 20 c.c. of salt solution is a good preparation. The dose should never exceed 10 grains."

This is quoted at length to show the completeness, conciseness, orderliness and definiteness of the work. The editing, too, is of a high order. It is a pleasure to recommend this volume as a reliable and detailed guide to everyday practice.

**THE INTERNAL SECRETIONS**, for the Use of Students and Physicians, by *Dr. Arthur Weil*, Assistant Professor in Physiology at the University of Halle. Authorized translation by *Abel Herman* edited by *Jacob Gutman, M.D., Ph.D., F.A.C.P.*, Brooklyn Diagnostic Institute. The McMillan Company, 1924. \$4.00.

As is pointed out in the preface, the method of presentation is unique. The important physiological functions are taken as subjects and the influence on such function of certain gland or glands described.

Chapter subjects are:

1. The origin of the idea of internal secretion and its definition.
2. The embryology and histology of the endocrine glands.
3. The physiology of the blood.
4. The circulation of the blood.
5. Respiration and voice production.
6. Metabolism.
7. Growth and bodily form.

8. Reproduction.
9. The sexual impulse.
10. The mind and the internal secretions.
11. The chemistry of the incretions.
12. Methods of testing for internal secretions.
13. The interrelationship of the endocrine glands.
14. Internal secretions and the nervous system.

Even a casual reading of this outline will awaken acute interest. A careful study of the subject matter will amply repay the student with reliable, usable information which will clarify and extend his knowledge.

## NEWS

### PRESIDENT KITCHIN SOUNDS VIGOROUS WARNING

Dr. J. A. Patterson, Concord, was elected December 3rd, president of the Cabarrus County Medical Society for 1929. Other officers elected include: Dr. I. A. Yow, vice-president; Dr. J. A. Hartsell, secretary and treasurer.

Dr. P. R. McFadyen, Dr. M. A. Widenhouse and Dr. G. L. Wicker, the latter of Kannapolis, were chosen as delegates to the next convention of the North Carolina Medical Society.

At this meeting Dr. Thurman D. Kitchin, president of the Medical Society of North Carolina and dean of the School of Medicine at Wake Forest College, discussed what he considers "one of the most alarming situations medical men have ever had to face." "The situation to which I refer," Dr. Kitchin explained, "is the gradual intrusion of non-medical organizations on the domain of medicine. This encroachment has been so gradual that few realize that all that medical men have discovered, developed and accomplished is in danger of being capitalized by men who have no connection with the profession.

"Various organizations, foundations, memorials, life extension bureaus, free clinics, health stations and institutes, are primarily organized by non-medical agencies, and the physicians doing the work are considered hardly more than clerks. Doctors are not permitted to advertise, yet these organizations

do advertise with the sky as the limit. In many instances the buildings are furnished by philanthropy and physicians give their time and talents, but the non-medical managers and overseers are well paid both in money and in glory.

"The charitable institute of the doctor is exploited by the self appointed prophets of the millennium. We stand in danger of seeing misguided social service sow the seeds of socialism."

### DETROIT MEDICAL SCIENTIST MOVES TO RICHMOND

Dr. Victor C. Vaughan, one of the foremost medical men in America and former dean of the medical school of the University of Michigan, has moved his permanent residence to Richmond, and with Mrs. Vaughan, has acquired a home in Westmoreland Place.

Dr. Vaughan recently retired from the University of Michigan, but he largely has continued his writing and editorial work. He is the author of numerous textbooks, is a leading pioneer in yellow fever and typhoid prevention research, a veteran of two wars, a knight of the Legion of Honor and one of the greatest educators and publicists in the field of science.

He came to Richmond from Detroit, where he has been living for several years. He has been a frequent visitor to Richmond. One of his sons, Dr. Warren T. Vaughan, has lived here for a number of years.

A native of Missouri, Dr. Vaughan began his scientific career as a technician in a chemical laboratory in 1875. The great work of the first of the modern experimenters in physiological chemistry and bacteriology began to interest him early in his life and he began to specialize in the new fields. Dr. Vaughan's latest book, "A Doctor's Memories," is non-scientific, and is a delightful chronicle of one of the most strenuous and interesting lives in contemporary America.

Dr. Vaughan's eldest son, Dr. Victor C. Vaughan, died in France during the war. Another son, Dr. John Walter Vaughan, is a surgeon in Detroit. Henry Frieze Vaughan is health commissioner of the city of Detroit, and Dr. Herbert H. Vaughan is professor of Italian on the faculty of the University of California. Dr. Warren T. Vaughan, his youngest son, is practicing medicine in Richmond.

As professor of hygiene and physiological chemistry at the University of Michigan, he contributed many things to science, becoming one of the founders of the relatively new science of bio-chemistry.

THE SEABOARD MEDICAL ASSOCIATION held its thirty-third annual meeting at Washington, N. C., December 4, 5 and 6, 1928.

Officers in charge: Dr. D. T. Tayloe, Jr., Washington, N. C., president; Dr. A. M. Burfoot, Fentress, Va., treasurer; Dr. Clarence Porter Jones, Newport News, Va., secretary.

Invited guests presenting papers were: Dr. J. A. C. Chandler, Williamsburg, Va., "Pre-medical Training"; Dr. Wilburt C. Davison, Durham, N. C., "Pyloric Stenosis in Infants"; Dr. William D. Stroud, Philadelphia, Pa., "Modern Cardiac Diagnosis"; Dr. Howard A. Kelly, Baltimore, Md., "Cancer"; Dr. Leon Herman, Philadelphia, Pa., "Gross Renal Hemorrhage"; Dr. Joseph Head, Philadelphia, Pa., "Dental Science vs. Propaganda"; Dr. William J. Mallory, Washington, D. C., "Diabetic Complications."

Other features of the program were papers on: "First Aid to the Injured Eye," Dr. Clarence Porter Jones, Newport News; "Indications and Contra-indications for Quinidine," Dr. Walter B. Martin, Norfolk; "Pulmonary Hemorrhage," Dr. Joseph L. Spruill, Jamestown, N. C.; "Fracture of the Anatomical

Neck of the Humerus," Dr. Joseph T. Buxton, Newport News; "Mastoiditis as a Cause of Diarrhea in Infants," Dr. W. L. Harris, Norfolk; "Pericardial Effusion, the Value of Paracentesis," Dr. R. C. Whitehead, Norfolk; "The Medical Treatment of Peptic Ulcer," Dr. Paul F. Whitaker, Kinston; "Cancer of the Rectum as Confronts the Proctologist," Dr. Stanley H. Graves, Norfolk; "The Prevention of Cancer in Women," Dr. Southgate Leigh, Norfolk; "The Medical Profession and the Medical Press," Dr. F. E. Stewart (honorary fellow), Philadelphia; "The Pre-school Child," Dr. Chas. O'H. Laughinghouse, health officer, State of North Carolina, Raleigh; "Local Anesthesia as an Office Aid," Dr. R. L. Raiford, Franklin, Va.; "The Therapy of Amebiasis, with Report of Cases," Dr. A. B. Hodges, Norfolk; "Subdiaphragmatic Abscess, with Case Report," Dr. Robert Mathews, Norfolk; "Upper Respiratory Focal Infection," Dr. Vance P. Peery, Kinston.

After the oyster roast at Bay View, Dr. Howard A. Kelly was elected to honorary membership; Dr. R. A. Davis, Newport News, was chosen president; Dr. S. M. Mann, Moyock, first vice-president; Dr. Jas. A. Grizzard, Drewryville, second vice-president; Dr. W. I. Wooten, Greenville, third vice-president; Dr. Robert Mathews, Norfolk, fourth vice-president; and Dr. A. M. Burfoot, Fentress, and Dr. Clarence Porter Jones, Newport News, were re-elected treasurer and secretary, respectively.

Dr. Burfoot was able to make so satisfactory a financial report that his salary was raised by unanimous vote.

THE FOURTH DISTRICT (N. C.) MEDICAL SOCIETY held its regular quarterly meeting at Roanoke Rapids, on November 20th. Officers: *President*, Dr. A. G. Woodard, Goldsboro, N. C.; *vice-president*, Dr. G. M. Brooks, Elm City, N. C.; *secretary-treasurer*, Dr. W. B. Kinlaw, Rocky Mount, N. C.

The program included: "X-ray in Acute Osteomyelitis," Dr. M. I. Fleming, Rocky Mount; "Athrepsia," Dr. R. P. Beckwith, Rosemary; "Professional Welfare," Dr. Thurman Kitchin, Wake Forest; "Remarks on Post-Graduate Work," Mr. R. M. Grumman, Chapel Hill. Then followed voluntary reports of clinical cases.



New officers were elected—*President*, Dr. T. W. M. Long, Roanoke Rapids; *vice-president*, Dr. L. W. Kornegay, Rocky Mount; *secretary-treasurer*, Dr. W. Bernard Kinlaw (re-elected), Rocky Mount.

Next meeting to be in Goldsboro in February.

Membership in the Fourth District Medical Society includes all members in good standing in the counties of Edgecombe, Halifax, Greene, Johnston, Nash, Northampton, Wayne and Wilson.

---

THE MECKLENBURG COUNTY MEDICAL SOCIETY held its regular bi-weekly meeting November 20th. Program: Case Reports—"Suppurative Pericarditis," Dr. R. F. Leinbach; "Digitalis Dosage," Dr. J. M. Northington; "X-ray Observations in Massive Atelectasis," Dr. L. M. Fetner. Paper—"Venereal Menace," Dr. W. W. Craven. L. C. Todd, Secretary.

---

THE LABORATORIES OF THE BULLUCK HOSPITAL, Wilmington, have recently been given the highest rating of the Council on Medical Education and Hospitals of the A. M. A. Only 150 laboratories in the U. S. have this rating.

---

THE KINSTON CLINIC, operating Memorial General Hospital, announces to the profession the organization of an Endoscopic Clinic, under direction of Dr. Vance P. Peery, for diagnosis and treatment of diseases of the air and food passages, and removal of foreign bodies.

---

THE ELLEN FITZGERALD HOSPITAL, Monroe, has issued an attractive announcement of its School for Nurses, receipt of a copy of which is acknowledged with appreciation.

---

DR. C. H. PUGH was elected president of the Gaston County Medical Association at the meeting of the organization December 11th.

Other officers of the association for 1929, elected at this meeting, are: first vice-president, Dr. C. E. Lyday; second, Dr. J. W. Campbell; secretary and treasurer, Dr. J. A. Anderson were elected to represent the society in the house of delegates of the State

#### NINETY-YEAR-OLD DOCTOR CELEBRATES BIRTHDAY

Dr. J. P. Nicholson, of Hamptonville, assistant surgeon of the Thirty-third North Carolina Regiment of the Confederate Army and perhaps the oldest family doctor in North Carolina, celebrated his ninety-third birthday anniversary December 16th.

Dr. Nicholson is widely known throughout Forsyth, Yadkin, Surry and Iredell counties, with numerous friends scattered throughout the state, having practiced medicine in this section for 64 years continuously.

Although well in the winter of life, the veteran medical man, family counsellor and neighbor gets much out of life.

His philosophy is that which nurtures happiness for himself and causes it to radiate, spreading good will wherever he journeys.

Dr. Nicholson received his medical education at Jefferson Medical College, Philadelphia, and the College of Physicians and Surgeons, Baltimore.

---

DR. HERBERT C. NEBLETT, Medical College of Virginia, 1914, recently resigned from the Medical Corps of the Army, has established offices in Charlotte for the practice of ophthalmology. Dr. Neblett has had a varied, extensive and intensive training.

From July, 1920, to February, 1921, he was surgeon of the Army Air Service Training Station for air service pilots at Carlstrom Field, Fla., engaged in routine ophthalmological work and special ophthalmological work related to air service pilots. The next three months was devoted to a special course at the Medical Research Laboratory and School for Flight Surgeons, Mitchell Field, N. Y., with special ophthalmological work at Bellevue and allied hospitals. Then followed three years as surgeon of the Air Service Coast Defense, Langley Field, Va., work confined to routine and special work in ophthalmology and that pertinent examination and care of the ocular conditions of pilots during the bombing maneuvers off the Virginia Capes and that of the "Around the World Fliers." During the years 1924 to 1928 Dr. Neblett was in charge of the Department of Ophthalmology at the Cadet Hospital of the U. S. Military Academy, at West Point, spending leaves of absence and special assignments taking work, from September to December of

1924 to 1926, in the clinics of Drs. Wheeler, Goldstein, Key, Weeks and Reese.

DR. HENRY M. STUCKEY, Sumter, S. C., 61, Medical College of the State of South Carolina, '91, died in a Richmond (Va.) hospital November 18th. Dr. Stuckey attended Fort Mill Academy, was graduated from Davidson College, and had his first year in medicine at the University of Virginia. He had served as president of the Sumter County Medical Society, and was an active member of the South Carolina Medical Association and the Tri-State Medical Association of the Carolinas and Virginia.

DR. JAMES HARVEY, 72, of Broadway, N. C., died in a Raleigh hospital December 6th, after several weeks of lingering illness. He received his medical degree in 1882 at Johns Hopkins University and shortly afterward began his more than 40-year career as a practitioner of Harnett. He was always active in civic and community affairs of his county, having been superintendent of education from 1895 to 1897. In 1898 he was elected clerk of the Superior Court of Harnett county and served efficiently in this capacity for eight years.

DR. J. T. DAVES, Danville surgeon, is recovering from injuries sustained in the x-ray room of Memorial Hospital. He had gone there to read a plate when his head came in contact with a highly charged wire. Dr. Daves was thrown to the floor and was unconscious for fifteen minutes, three burns appearing on his head while the heel of one of his shoes was almost burned through. The tendons of one leg also were affected.

Dr. I. C. Harrison, who quickly reached the doctor, resorted to resuscitation means and Dr. Daves is now able to be out.

DR. JAMES EDWARD SHULER, Durham, and Miss LUCY SPEARMAN BRONSON, Greensboro, were married December 8th.

#### DR. JAMES IS HOST

Dr. W. D. James was host to about 40

doctors of Moore, Scotland and Richmond counties at his home in Hamlet, December 11th.

Dr. Thurman Kitchin, dean of Wake Forest Medical Department and head of the State Medical Society, spoke on the "Trend of the Times," with special reference to the agitation heard in some quarters for a state operated medical service. A lecture on the orthopedic surgeon, illustrated with lantern slides, was delivered by Dr. W. F. Cole, of Greensboro.

DR. ROBERT LEE FELTS, Durham, and Miss JESSIE ALEXANDER GILES, Asheville, were married November 15th.

DR. T. H. HOUCK, Medical College of the State of South Carolina, '12, has opened offices with Dr. C. H. C. Mills, Charlotte, for the exclusive practice of obstetrics.

DR. W. H. SCRUGGS, JR., Gastonia, and Miss ELIZABETH BROWN, Newton, were married Thanksgiving Day.

DR. EDWARD FRANCIS, renowned for his investigations of tularemia, is in the Naval Hospital, Washington, suffering with Malta fever, contracted from handling cultures in the hygienic laboratory.

DR. JAMES E. MALONE, Bellevue '75, died at his home at Louisville, November 29th.

DR. FRED M. HANES, of Winston-Salem, has been appointed a member of the board of directors for the North Carolina Sanatorium for the treatment of tuberculosis by Governor McLean. He succeeds U. L. Spence, of Carthage, resigned.

DR. HERBERT S. BECKLER, Staunton, Va., and Mrs. JESSIE M. HOLT, Washington, D. C., were married in the latter city, November 15th.

DR. GEORGE P. NEEL, Greenwood, S. C., is recovering from a serious operation at Johns Hopkins Hospital.

# Index to Volume Ninety

## MATERNAL MORTALITY, A SYMPOSIUM ON

The Statement of the Case, <i>Harold Bailey</i>	137
Faults in the Management of Normal Cases, <i>Greer Baughman</i>	139
"    "    "    "    of Abnormal Cases, <i>L. A. Wilson</i>	141
Indications for Premature Labor, <i>M. P. Rucker</i>	143
"    "    Forceps, <i>B. C. Nalle</i>	148
"    "    Cesarean Section, <i>Oren Moore</i>	150
Mental Disease Complicating Pregnancy, <i>O. B. Darden</i>	224
Ocular Complications of Pregnancy, <i>J. A. White</i>	228
The Home or Hospital for Obstetric Delivery, <i>C. J. Andrews</i>	231
Surgery of Other Parts as Influenced by Pregnancy, <i>A. M. Willis</i>	233
Tuberculosis Complicating Pregnancy, <i>C. C. Orr</i>	235
The Cardio-Vascular-Renal Complications of Pregnancy, <i>Garnett Nelson</i>	238
Urological Complications of Pregnancy, <i>A. J. Crowell and H. W. McKay</i>	249
Discussion of the Symposium	251-258

## ORIGINAL ARTICLES

Abortion, Handling Cases of, <i>H. L. Brockmann</i>	809
Acidosis and Coma, The Treatment of Diabetic, <i>S. L. Crow</i>	610
Acute Cranial Injuries, Principles of Treatment in, <i>T. D. Sparrow</i>	663
Addictions, <i>J. K. Hall</i>	483
Appendicular Obstruction, Acute, <i>W. P. Biggart</i>	31
Appendicitis, The Seasonal Incidence of, <i>D. P. Murphy</i>	559
Arthritis, Foci and a Surgical Prognosis in, <i>V. K. Hart</i>	618
Be Glad—And Think (Address to Graduating Class, St. Luke's Hospital), <i>J. K. Hall</i>	804
Brain, Some Acute Infections of, <i>A. A. Barron</i>	750
Carcinoma of the Esophagus—Improvement (Case Report), <i>G. C. Cook</i>	93
Cardiac Prognosis, Grounds for Optimism in, <i>L. T. Gager</i>	728
Cardiac Disease in Children, <i>W. C. Davison</i>	342
Cesarean Section in the Treatment of Eclampsia, <i>Ivan Procter</i>	81
Cesarean Section, <i>L. A. Crowell</i>	676
Clinical Laboratory of the Small Hospital, <i>W. G. Gamble, jr.</i>	563
Codine and Veronal Habit-forming Drugs, <i>W. C. Ashworth</i>	616
Conservation of Mental Health, On the Importance of, <i>J. K. Hall</i>	18
Colloidal Lead Treatment for Inoperable Cancer, <i>E. S. Bulluck</i>	743
Cystoscopy, Some Practical Points About, <i>R. B. Davis</i>	357
Determining the Dominant Factors of Ill-Health in Complicated Cases, Observations Upon, Disease Conditions of the Brain (Case Report), <i>A. A. Barron</i>	680
Diarrhea Treated by Colon Irrigations (Case Report), <i>D. H. Nisbet</i>	93
Diagnosis of Eye, Ear, Nose and Throat Conditions by the Doctor in General Practice, <i>G. J. J. H. Hiden</i>	420
Diagnosis, Exact Pulmonary Still Impossible, <i>S. E. Thompson</i>	736
Diagnosis of Tuberculosis, The Early, <i>C. L. Minor</i>	165
Diagnosis, Some Pertinent Sources of Error in, <i>W. T. Vaughan</i>	320
Duco Poisoning, <i>C. A. Undine (Minnesota Medicine)</i>	752
Duodenum and Gall-Bladder, Roentgen-ray in Diagnosis of Diseases of, <i>F. M. Hodges</i>	352
Duodenal Feeding, Severe Vomiting Relieved by, <i>D. H. Nisbet</i>	561
<i>Tygett</i>	670
Early Pulmonary Tuberculosis, On Making the Diagnosis, <i>J. M. Northington</i>	571
Endoscopy, Peroral as an Aid to the Doctor in General Practice, <i>L. H. Clerf</i>	653
Episode State Board Meeting, <i>T. E. Anderson</i>	819
Extravasation, Urinary, <i>J. J. Ravenel</i>	811
Fear—Mankind's Worst Enemy, <i>J. K. Hall</i>	656
Foreign Bodies in Bronchi, Roentgen-ray Diagnosis of Non-opaque, <i>J. L. Tabb</i>	332
Gall-bladder Surgery, End Results of, <i>C. S. White</i>	328
Gastro-enterology, Some Common Problems in, <i>W. R. Graham</i>	427
Glaucoma, Diagnosis of Incipient Chronic, <i>R. R. Goad</i>	674
Goiter During Pregnancy, <i>J. W. Gibbon</i>	80
Goiter, Result of Surgical Treatment of Exophthalmic, <i>Carrington Williams</i>	436
Goiter, Some Practical Observations on, <i>A. G. Brenizer</i>	349
Goiter, Result of Surgical Treatment of Exophthalmic, <i>Carrington Williams</i>	346
Golden Rule in Surgery, The, <i>Southgate Leigh</i>	338
Handling Diabetes in General Practice, A Procedure for, <i>E. J. Wannamaker, jr.</i>	435
Hypertension, Treatment of Essential, <i>Thompson Frazer</i>	739
Ichthyol Internal, <i>B. W. Page</i>	508
Intestinal Parasites, Their Frequency and Clinical Manifestations, <i>P. F. Whitaker</i>	566
Jaundice, Certain Clinical Features of, <i>J. W. Gibbon</i>	613
Kidney Function, Estimation of the, <i>O. E. Finch</i>	500
Kidney Function Tests, Importance and Interpretation of, <i>F. M. Patterson</i>	666
Liquor Habit, Factors Underlying the, <i>Cyrus Thompson</i>	660
Local Anesthesia an Office Aid, <i>R. L. Raiford</i>	814
Malta Fever, With Report of Cases, <i>J. P. Williams and F. W. Shaw</i>	403



Married Ten Years: Nine Children, Twins Three Times, All Living, <i>J. W. McGhee</i>	433
Mastoiditis, The Unusual in, <i>V. K. Hart</i>	84
Mastoiditis in Infants, Lessons From Cases of, <i>V. P. Peery</i>	26
Medical History of a Single County, Pages From, <i>G. M. Cooper</i>	555
Murmurs and Irregularities, Common, of the Heart, <i>W. B. Kinlaw</i>	86
Obstetrics, How the General Practitioner Can Do Better, <i>Paul Crumpler</i>	606
Oxygen in Pneumonia, <i>P. H. Ringer</i>	546
Patient, Our Duty to, <i>C. W. Evatt</i>	807
President of Medical Society of North Carolina, Address of the	315
Remarks on President's Address, <i>J. K. Hall, J. A. Hodges</i>	217
Paraplegia in Myeloid Leukemia (Case Report), <i>Wm. Allan</i>	573
Pellagra, <i>M. E. Street</i>	550
Pernicious Anemia, Liver Diet in the Treatment of, <i>W. T. Rainey</i>	497
Prostatectomy, Physiological Principles for Preparing for, <i>R. B. McKnight</i>	493
Pneumonia, Treatment of, <i>J. L. Müller</i>	219
Pernicious Anemia, Pre-Anemic Features of, <i>J. P. Schneider</i>	543
Peroral Endoscopy, <i>C. N. Peeler</i>	487
President of Medical Society of North Carolina, Address of the	310
President of the North Carolina Hospital Association, Address of the	490
President of the Tri-State Medical Association, Address of the	213
Fruritus Ani, <i>W. W. Craven</i>	505
Pulmonary Inflammation, Diagnosis of, <i>B. M. Randolph</i>	723
Rabies From the Veterinarian's Viewpoint, <i>H. C. Rea</i>	24
Relation of Habit Disease to Mental Disturbances, The, <i>W. C. Ashworth</i>	414
Respiratory Infections, Upper, with Predominating Gastro-Intestinal Symptoms, <i>J. R. Ashe</i>	753
Rheumatic Heart Disease, <i>L. W. Kelly</i>	569
Sodium Iodide, The Intravenous Administration of Massive Doses of, <i>C. B. Herman</i>	16
Spinal Anesthesia, Studies in, <i>R. B. McKnight</i>	745
Stenson's Duct, Successful Anastomosis of (Case Report), <i>H. S. Black and P. W. Flagge</i>	755
Thyro-glossal Duct Cysts, <i>H. S. Black</i>	486
Thyroid Gland, Adenoma of the, <i>T. D. Sparrow</i>	599
Tonsil, The Surgical, <i>V. P. Peery</i>	502
Tuberculosis in the Early Stages, Diagnosis of, <i>C. H. Cocke</i>	733
Tularemia (Case Report), <i>Wm. Allan</i>	562
Ulcer, Gastric, Leaking (Case Report), <i>S. O. Black</i>	816
Urethritis, Treatment of Chronic Posterior, etc., by Electro-Therapy, <i>C. H. Phillips</i>	669
Malta Fever (Case Report), <i>Thompson and Carrington</i>	817
Urinary Obstruction, Congenital, <i>W. M. Coppridge</i>	22
Uterine Retroversions, Some Experiences in Replacing, <i>J. H. Hiden</i>	552

## EDITORIALS

(Unsigned Editorials are by The Editor)

Anesthetics, Deaths From	516
Applauding and Supporting Our Own	382
A High Blood Pressure Cure	461
Buying in Your Office	102
Clark, R. R., on Doctors	692
Crowell, President	103
Cost of Medical Care	514
Damages to Bones and Reputations, On	175
Diphtheria Antitoxin, A Note on the Introduction of	281
District Medical Meeting, Some Impressions From a	689
Doctors, A Piece About	282
Doctors' Bills Should Have Special Consideration	762
Dunn, Dr., <i>C. P. Ambler</i>	462
Essay Contest on the Problems of the Family Doctor	38
Experiment, The Magnificent, <i>W. L. Peple</i>	623
Expert Witness, Some Suggestions for the	517
Fewer Sections, For	279
For More Post Mortem Examinations	763
Gynecology, Present Conception of Some Phases of, <i>F. W. Griffith</i>	826
Hall, President	172
High Blood Pressure Victim, Relief for the	624
Honest Advertising	828
Individualization in Internal Medicine, <i>L. G. Gage</i>	690
Inquiry, An, Into the Attitudes of the Candidates for the Presidency Toward Doctors	684
Kitchin, President	378
Koan Ogata's Scroll	519
"Le Roi est Mort; Vive le Roi"	174
Liver Fad, The	382
Lying of Doctors, On the Cheerful	577
Medical Examiners, Our	102
Meeting of the State Medical Society, The	377

My Views in a Nutshell, <i>J. A. White</i> .....	458
McNairy Memorial .....	828
New Members, Our .....	173
Obstetrical Patients, Rules for Management of, <i>F. W. Rice (Abs.)</i> .....	625
Official Organ, The .....	379
On Starting Schooling Right .....	455
Perineal Lacerations, Preventing .....	103
Pneumonia, Management of the Patient Who Has .....	279
Peace, Means of Insuring .....	173
Preparedness, A Lesson in .....	691
President's Address, Our .....	278
Readers' Preferences and Opinions .....	35
Seaboard Meeting .....	829
Shorter School Hours for the Smaller Children .....	624
Small Town Doctor, Appreciating a .....	761
South Carolina's Way .....	42
Tax (\$25) on Doctors, For Abolishing .....	280
Tests for Drunkenness .....	764
"The Doctors Gave Me Up" .....	579
The Doctors Wood .....	823
The Way Some "Popular" Doctors Get Patients .....	765
Tri-State Meeting, The Coming .....	39
Tri-State Officers Plan February Meeting .....	763
"Tuberculist," The .....	176
Tularemia .....	101
Virginia Beach Meeting .....	172
What Evidence is There That We Are Curing Any Patients of Cancer? .....	176
Whom We Delight to Honor .....	380
Why Doctors Should be Active in Politics .....	827
Will to Do .....	460

## DEPARTMENT EDITORIALS

(Unsigned Department Editorials are by the Editor of that Department)

## HUMAN BEHAVIOR

Aequanimitas .....	767
Alcohol, <i>O. B. Darden</i> .....	581
An Outrage .....	830
Behavior as Mind .....	384
Bottom Rail, On the Elevation of the .....	522
Cities, The Good Health of Large .....	177
Grave-yards and Vital Statistics .....	106
Intravital Appreciation .....	832
Mental Defective, The Problem of the, <i>M. A. Griffin</i> .....	628
National Mental Hygiene Association .....	832
Recognition, About Obtaining .....	107
Sentencing Commission, A .....	43
Suicide, What is the Meaning of? .....	464
Symbolism in a Grocery Store .....	284
The Public, The Doctor, and The Law, <i>W. R. Griffin</i> .....	693

Department Editor, *J. K. Hall*

## PEDIATRICS

Diphtheria, The Treatment of, <i>G. W. Kutscher, jr.</i> .....	286
Ergosterol for Rickets .....	695
Fourth Disease, <i>G. W. Kutscher, jr.</i> .....	834
Glimpse Into the Evolution of Pediatrics, <i>G. W. Kutscher, jr.</i> .....	768
Infant Feeding with Undiluted Cow's Milk .....	107
Thrush, <i>G. W. Kutscher, jr.</i> .....	538
Thymus, About the, <i>R. M. Pollitzer</i> .....	582
Underweight School Child, The, <i>G. W. Kutscher, jr.</i> .....	45
Underweight School Child, More on the, <i>G. W. Kutscher, jr.</i> .....	179
Underweight School Child, Final Report, <i>G. W. Kutscher, jr.</i> .....	384

Department Editor, *F. H. Richardson*

## DENTISTRY

Dental Antritis, <i>J. S. Norman</i> .....	835
Responsibilities of Dentistry as a Factor in Health Service .....	465
Toothache .....	696

Department Editor, *W. M. Robey*

## DISEASES OF THE EYE, EAR, NOSE AND THROAT

Anginas, Unusual, <i>V. K. Hart</i> .....	583
Carelessness, <i>C. N. Peeler</i> .....	289
Earache Not Due to Local Infection, <i>V. K. Hart</i> .....	769
Hemorrhage in the Anterior Chamber, <i>H. L. Sloan</i> .....	46

Hoarseness, <i>C. N. Peeler</i> .....	836
Laryngoscopy in Thyroid Disease, <i>C. N. Peeler</i> .....	630
Mastoid Operation, The Radical, <i>F. E. Motley</i> .....	531
Prevention of the Chronically Discharging Ear, <i>F. E. Motley</i> .....	112
Squint, Treat Early, <i>F. C. Smith</i> .....	696
Treatment of Chronic Otitis Media, <i>F. E. Motley</i> .....	477
Tuberculosis of the Eye, Observation on, <i>H. L. Sloan</i> .....	180

Department Editors, *The Matheson Group*

## LABORATORIES

Andrewes' Test in Uremia, <i>N. M. Smith</i> .....	698
Blood Grouping "r" to Date, <i>L. H. Snyder</i> .....	584
Blood Grouping, Uses of, <i>L. H. Snyder</i> .....	630
Blood, Occult in Feces, <i>N. M. Smith</i> .....	384
Clinical Significance of Blood Calcium, <i>N. M. Smith</i> .....	466
Reticulated Cell Counts, The Value of in Anemia, <i>N. M. Smith</i> .....	523

Department Editor, *The Barrel Laboratories*

## ORTHOPEDIC SURGERY

Backache, <i>J. S. Gaul</i> .....	585
Fractures of the Elbow .....	769
Fractures of the Femur, <i>R. A. Moore</i> .....	289
Hallux Valgus and Hallux Rigidus .....	47
Os Calcis, Fractures of the .....	181
Os Calcis, Fractures of, <i>H. P. Mauck</i> .....	387
Osteomyelitis, Acute Hematogenous .....	699
Postural Backache, <i>J. W. White</i> .....	837
Rickets .....	467
Scoliosis Treated by Spine Fusion .....	525
Surgical Suggestions .....	113

Department Editor, *O. L. Miller*

## UROLOGY

Bladder Rupture, A Case of Spontaneous .....	525
Cystoscopy in Infancy and Childhood .....	288
Drainage of the Bladder in Benign Hypertrophy of the Prostate Gland .....	468
Gonorrhea, Bacteriologic Diagnosis, <i>C. B. Squires</i> .....	114
Infections of the Urinary Tract During Pregnancy, Some .....	183
Interpretation of Unusual Shadows Outside of the Urinary Tract .....	290
Mortality in Kidney Surgery, <i>M. Weinberg</i> .....	838
Neosarsphenamine as a Urinary Antiseptic, <i>T. McC. Davis</i> .....	770
Perinephritic Abscess, <i>Raymond Thompson</i> .....	47
Stricture of the Urethra in the Female .....	701
Ureteral Stricture, Symptoms of, <i>C. B. Squires</i> .....	587
Urological Aid to the General Practitioner, <i>M. H. Wyman</i> .....	631

Department Editor, *H. W. McKay*

## RADIOLOGY

Birth Marks .....	527
Breast Cancer, X-rays and .....	115
Cancer of the Lung .....	469
Cancer of the Mouth .....	702
Eczema and X-rays .....	49
Protection in X-ray Laboratories .....	184
Radiology as a Specialty .....	291

Department Editor, *J. D. MacRae*

## DERMATOLOGY

Epithelioma, The Diagnosis and Treatment of .....	292
Chancre, Extragenital .....	704

Department Editor, *J. A. Elliott*

## INTERNAL MEDICINE

Appendicitis .....	470
Citing Certain Valuable Articles .....	587
Crime and Punishment .....	471
Essential Hypertension .....	839
Inaugural Address of Dr. W. S. Thayer, Comments Upon the .....	528
Medical Care, High Cost of .....	840
Obscure Fever, <i>W. B. Dewar</i> .....	705
Obesity and Carbohydrates .....	120
Non-Tuberculous Child, The .....	185
Variety—With Suggestions .....	389

Department Editor, *P. H. Ringer*

## SURGERY

"Appendicitis" .....	589
----------------------	-----



Emphyema .....	294
Golter .....	116
Infection After Extraction of Teeth .....	471
Post-operative Phlebitis .....	50
Pulmonary Tuberculosis, Surgical Treatment of .....	178
Spinal Cord Tumors .....	322
Surgery of the Spleen .....	706
Tularemia .....	772
Trauma, Acute Intra-abdominal .....	841
Thymus Question, The .....	531
Varicose Veins of the Leg .....	632
Department Editor, <i>G. H. Bunch</i>	

## HEALTH MAINTENANCE

Be Sure You Do No Harm .....	708
Further Report on the Case Reported Last Month .....	117
Health Examinations, Beginning of Periodic .....	393
Health Examinations, Defects Found by .....	774
Health Examination, The Necessary Equipment for .....	533
Interest in Periodic Health Examinations .....	473
Life Extension Unit of North Carolina State Board of Health .....	295
Negroes, Health Examination of .....	590
Oxford Medicine, Notes on New Pages .....	187
Periodic Examination of Physicians .....	633
Psychotic Episode, An Interesting .....	51
Skin Conditions Found .....	848
The Treatment of Cardiac Neuroses .....	117
Department Editor, <i>F. R. Taylor</i>	

## OBSTETRICS

Birth Canal, Injuries to .....	396
Breech Delivery, The Management of .....	534
Delivery, During and Immediately Following .....	842
Forceps Delivery .....	590
Occipito-Posterior, Management of .....	709
Pituitrin in Delivery, The Use of .....	634
Pregnancy, Some Pathological Conditions of .....	55
Puerperal Infection .....	774
Pyelitis Complicating Pregnancy .....	188
Treatment for Conditions Discussed in the January Issue .....	122
Twin Pregnancy with Transverse Presentation .....	474
Weight in the Pregnant Woman, The Importance of Studying the .....	297
Department Editor, <i>H. J. Langston</i>	

## GYNECOLOGY

Backache and Bearing-Down Feeling .....	844
Endometrial Adenomata, <i>R. E. Seibels</i> .....	845
Endometritis .....	711
Examination, The Gynecological .....	189
Myomectomy .....	394
Report of Instructive Cases .....	298
Department Editor, <i>C. R. Robins</i>	

## NEUROLOGY

1. Cerebellum, The, 2. Sensory Disorders .....	124
Clinical Test of Value, A New .....	776
Classic on Infancy, About a .....	535
Encephalitis With Unusual Onset and Symptoms .....	300
Examinations .....	55
Mental Factor, The .....	395
Poliomyelitis, After-Treatment of .....	591
Sensory Tests .....	846
Syphilis of the Nervous System .....	190
Watch for Early Signs of Nerve Involvement .....	712
What Ailed Him? .....	476
Department Editor, <i>O. B. Chamberlain</i>	

## PUBLIC HEALTH

Children's Health, Conserving .....	397
Diphtheria Control in Virginia .....	536
"I've Got It; Come and Get It!", <i>R. K. Flannagan</i> .....	592
Malaria and Mosquito Control .....	476
Milk, <i>R. Messer</i> .....	846
Practicing Physicians as Health Officers .....	301
Prevention and Early Correction, For .....	713
Sanitation in the Rural Home, <i>Richard Messer</i> .....	777
Department Editor, <i>L. L. Williams</i>	

## WOOD MEMORIAL CONTRIBUTIONS

The Woods—Father and Son, <i>G. M. Cooper</i> .....	787
Autobiographical Sketch, <i>T. F. Wood</i> .....	794
The Woods— <i>Pere et Fils, T. E. Anderson</i> .....	795
Edward Jenner Wood, <i>G. M. Cooper</i> .....	796
Dr. Edward J. Wood, <i>J. G. Murphy</i> .....	799
Edward Wood—Man and Doctor, <i>C. T. Nesbitt</i> .....	800
Edward Jenner Wood, <i>E. S. Bulluck</i> .....	801
Edward Wood—Alpha Tau, <i>R. B. McKnight</i> .....	802

## PRIZE ESSAYS ON "HOW THE FAMILY DOCTOR CAN INCREASE HIS USEFULNESS AND HIS INCOME"

J. H. Hiden ( <i>awarded first prize</i> ) .....	1	F. L. Knight .....	263
W. M. Johnson ( <i>awarded second and</i> .....	5	D. H. Reed .....	264
H. J. Langston ( <i>third prizes</i> ) .....	8	N. G. Wilson .....	265
J. A. Norton ( <i>received votes</i> ) .....	10	T. H. Martin .....	267
M. O. Burke " " .....	13	J. B. Cranmer .....	269
R. P. Finney .....	35	W. H. Harrell .....	271
F. M. Horsley .....	71	J. M. Payne .....	274
E. S. Bulluck .....	74	C. B. Epps .....	360
Harold Glascock .....	75	P. W. Flagge .....	365
Alexander McLeod .....	76	G. E. Thompson .....	366
V. K. Hart .....	153	W. A. Johnson .....	368
A. L. Denchfield .....	156	O. B. Chamberlain .....	370
R. H. Rowe .....	157	C. S. McCants .....	437
C. S. Webb .....	159	J. M. Miller .....	439
J. G. Davis .....	160	J. Q. Myers .....	442
F. R. Taylor .....	161	T. R. Littlejohn .....	444
C. C. Hubbard .....	259	C. B. Herman .....	445
E. E. Adams .....	260	G. T. Klipstein .....	447

## PROCEEDINGS THIRTIETH ANNUAL MEETING OF TRI-STATE MED.

ASSN. 197-200

## MEMORIAL SERVICE, TRI-STATE MED. ASSN.

Dr. J. Howell Way, *Cyrus Thompson* .. 192Dr. Charles V. Carrington, *R. C. Bryan* 193Dr. W. P. Whittington, *C. C. Orr* .. 194Dr. S. S. Gale, *J. T. McKinney* .. 194Dr. A. T. Pritchard, *W. R. Griffin* .. 195Dr. A. R. Taft, *F. B. Johnson* .. 196

## AUTHORS

(For prize essayists, see "Prize Essays")

Allan, Wm. ....	562, 573	Davis, R. B. ....	357
Anderson, T. E. ....	795, 819	Evatt, C. W. ....	807
Andrews, C. J. ....	231	Flagge, P. W. ....	755
Ashe, J. R. ....	753	Frazer, Thompson ..	739
Ashworth, W. C. ....	414, 616	Gager, L. T. ....	728
Bailey, Harold .....	137	Gamble, W. G., jr. ....	563
Barron, A. A. ....	680, 750	Gibbon, J. W. ....	80, 613
Baughman, Greer .....	139	Goad, R. R. ....	674
Biggart, W. P. ....	31	Graham, W. R. ....	427
Black, H. S. ....	486, 755	Griffin, W. R. ....	195
Black, S. O. ....	816	Hall, J. K. ....	18, 218, 610, 650, 804
Brenizer, A. G. ....	349	Hart, V. K. ....	84, 618
Bryan, R. C. ....	193	Herman, C. B. ....	10
Brockmann, H. L. ....	809	Hiden, J. H. ....	420, 552
Burrus, J. T. ....	315	Hodges, F. M. ....	352
Bulluck, E. S. ....	743, 801	Hodges, J. A. ....	217
Carrington, G. L. ....	817	Johnson, F. B. ....	196
Clerf, L. H. ....	653	Kelly, L. W. ....	569
Cocke, C. H. ....	733	Kinlaw, W. B. ....	86
Cooke, G. C. ....	93	Lawrence, C. S. ....	490
Cooper, G. M. ....	555, 787, 796	Leigh, Southgate ..	338
Coppridge, W. M. ....	22	Miller, J. L. ....	219
Craven, W. W. ....	505	Minor, C. L. ....	165
Crow, S. L. ....	610	Mitchell, R. C. ....	423
Crowell, A. J. ....	249	Moore, Oren .....	150
Crowell, L. A. ....	676	Murphy, D. P. ....	559
Crumpler, Paul .....	606	Murphy, J. G. ....	799
Finch, O. E. ....	500	McGhee, J. W. ....	433
Darden, O. B. ....	224	McKay, H. W. ....	249
Davison, W. C. ....	342	McKinney, J. T. ....	194
		McKnight, R. B. ....	493, 745, 802

Nalle, B. C.	148
Nelson, Garnett	238
Nesbitt, C. T.	800
Nisbet, D. H.	93, 561
Northington, J. M.	571
Orr, C. C.	235
Orr, C. C.	194
Page, B. W.	508
Patterson, F. M.	666
Peeler, C. N.	487
Peery, V. P.	26, 502
Phillips, C. H.	669
Procter, Ivan	83
Raiford, R. L.	814
Rainey, W. T.	497
Randolph, B. M.	723
Rea, H. C.	24
Ringer, P. H.	546
Rucker, M. P.	143
Schneider, J. P.	543

Shaw, F. W.	403
Sparrow, T. D.	663, 599
Street, M. E.	550
Tabb, J. L.	332
Thompson, Cyrus	192, 660
Thompson, J. M.	817
Thompson, S. E.	736
Tygett, G. J.	670
Vaughan, W. T.	320
Wannamaker, E. J., jr.	435
White, C. S.	328
White, J. A.	228
Whitaker, P. F.	566
Williams, Carrington	346
Williams, J. P.	403
Willis, A. M.	233
Wilson, L. A.	141
Wilson, Robert, jr.	213
Wood, T. F.	794

## Mary Black Clinic & Private Hospital

Spartanburg

South Carolina

H. R. BLACK, M.D., F.A.C.S., *Consultant*  
 S. O. BLACK, M.D., F.A.C.S., *Gynec and General Surgery*  
 H. S. BLACK, A.B., M.D., *Diseases of Women and Abdominal Surgery*  
 H. E. MASON, M.D., *General Medicine*  
 RUSSELL F. WILSON, M.D., *Genito-Urinary Diseases and X-ray*  
 PAUL BLACK, *Hydro- and Electro-Therapeutist*

*Especially equipped for:*

Surgical, Hydrotherapeutic, Dietetic, Metabolic,  
 Laboratory, X-ray and Radium

Diagnosis  
 and  
 Treatment

Rates per week (payable weekly in advance): Wards—\$17.50; Two and Three Beds in Room—\$24.50; Private Room—\$21.00 to \$28.00; Private Room with Lavatory and Toilet—\$35.00 to \$40.00; Private Room with Bath—\$45.00 to \$50.00.

Address communications to: MISS HELEN LANCASTER, *Business Manager*

**FOR SALE—CHEAP: Hospital Equipment and Electric Elevator**  
 MERIWETHER HOSPITAL AND TRAINING SCHOOL (Asheville) has closed.

We will sell at bargain prices: One set of electric sterilizers, complete, American make, in perfect condition—one autoclave—instruments—utensils—hot and cold water system which was used for 50-bed hospital, but will do for smaller or larger.

Also one electric elevator, in good condition, cheap.

Address Meriwether Hospital, 37 Watauga St., Asheville, N. C.

## WESLEY LONG HOSPITAL

Greensboro, N. C.

Surgical—Obstetrical—Medical

Hundred Thousand Dollar Fire-proof Annex Building

Training School for Nurses

affiliated with

North Carolina College for Women

Member of the State and American Hospital Associations























